

**A HISTORY OF GRAPE
PRODUCTION AND
WINEMAKING IN
CANTERBURY, NEW ZEALAND
1840-2002**

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ABSTRACT

Grapes were first planted in Canterbury in 1840, but commercial production only began in 1978. This research paper examines the history of grape and wine production in Canterbury. It considers the different factors constraining the commercial development of wine production initially and reviews the key actors and processes influencing developments since then. The role of Lincoln College, later University, is shown to be pivotal to the development of grape growing and wine making in Canterbury and the cooler parts of New Zealand. While Canterbury has only a small part of the overall New Zealand vineyard area, its contribution, through Lincoln, to research, publication, education and development of the New Zealand Wine Industry has been considerable. Canterbury is currently enjoying a period of rapid vineyard development.

This research report provides much of the historical detail underlying the first three chapters of *Canterbury Grapes and Wines 1840-2002* by Danny Schuster, David Jackson and Rupert Tipples (2002, Shoal Bay Press: Christchurch). It is the working document of an industry historian and first hand observer of the developments since 1977. As such, it is not a polished final publication manuscript of the form which appears in the book, but very much the working document, with all the limitations implied.

CONTENTS

PART I.....	1
THE EARLY YEARS 1840-1895	1
1.1 Introduction.....	1
1.2 French ambitions in New Zealand	1
1.3 Preparations.....	2
1.4 Landing and establishment	3
1.5 Viticultural progress.....	3
1.6 Viticultural decline.....	5
PART II.....	7
DEVELOPMENTS POST BRAGATO: LINCOLN, RESEARCH TRIALS, TEACHING AND THE GROWTH OF THE COMMERCIAL WINE INDUSTRY	7
2.1 Introduction.....	7
2.2 The years before 1973.....	7
2.3 Grapes at Lincoln College - From 1973	8
2.3 Fermentation experiments at Lincoln - the Serendipity factor	9
2.4 “Experiments in viticulture at Lincoln College”	11
2.5 Seminars, Workshops and Courses.....	14
2.6 Publication	16
2.7 Commercial Production	17
2.8 Educating viticulturalists and winemakers at Lincoln.....	24
2.9 Celebrations and Competitions	25
2.10 Research in the 1990s	28
2.11 Planting developments of the 1990s	29
PART III.....	30
THE NEW MILLENNIUM.....	30
3.1 Where is Canterbury wine at the end of the second millennium?	30
KEY CANTERBURY WINE EVENTS.....	32
ACKNOWLEDGEMENTS	33
ENDNOTES.....	33

PART I

THE EARLY YEARS 1840-1895

1.1 Introduction

Grapevines, *Vitis vinifera*, first arrived in Canterbury with the earliest French settlers, ten years before the formal Canterbury Settlement in 1850. Michael Cooper wrote in *The Wines and Vineyards of New Zealand* (1989, 230):

“French peasants who landed in 1840 at Akaroa on Banks Peninsula carried vine cuttings, from which wine soon flowed for their domestic consumption.”

Yet it was to be only in 1978 that the first commercial vineyard, *St Helena*, was planted on Coutts Island, 20 kilometres north of Christchurch. Cooper describes the climate of Canterbury as more hazardous for wine production than districts further north, although nearer the Equator than many European wine districts. However, it has one vital advantage over points further north, which had been the major wine producing areas of New Zealand - low rainfall. Canterbury's long dry autumns, warm days and cool nights permits grapes to ripen slowly with excellent flavours. Why, then, did it take nearly 150 years for those characteristics to be recognised and commercially exploited? Exploring the answer to that question is where this historical introduction starts.

Petrie observed in the 1840s that a major factor limiting the spread of the grapevine in New Zealand was that the English knew little about viticulture:

“To cultivate them (vines) to any extent, we shall require French and German cultivators, to whom the most liberal encouragement should be given.”¹

French settlers at Akaroa certainly did plant vines, but by the end of the century there was little trace of former plantings. Cooper's explanation for this failure was that heavy forest cover and the spread of British influence on Banks Peninsula “...combined to defeat hopes for a flourishing winegrowing industry.”² One unmentioned possible explanation for failure may have been the high proportion of birds to vines. In those early days, bird control would have been even more difficult than it is now. While all these factors may have played a part they are not the whole story. To understand that, we need to go back to the origins of the French plans to colonise New Zealand, and then consider why they failed. Then the reasons for the early grape and wine production not continuing have to be taken into account as well.

1.2 French ambitions in New Zealand

The French attempt to colonise New Zealand was different from British plans which envisaged a cross-section of British society emigrating. The Nanto-Bordelaise Company, which was the vehicle of colonisation, had a number of educated gentlemen who considered emigrating. It welcomed the prospect of settlers with modest amounts of capital, but none of these people decided to emigrate. The vast majority of emigrants were peasants who left France with no capital at all and who were entirely dependent on the Company for all their worldly needs. They were escaping the severe rural poverty of the time. Those recruited from the Rochefort area were nearly all poor *cultivateurs*. Few could read or write although most could sign their own names³.

The main source of capital and drive behind the colonising expedition was the Duc de Decazes. Decazes was a prominent French politician at the time, a leading mason, and had held government office under King Louis XVIII⁴. He had a positive influence on the conditions in which the colonists were taken to New Zealand and attempted to ensure that they would receive a generous amount of land. The colonists signed an agreement in which they received land for labour as an incentive to develop the colony. They were to be transported free of charge and would receive five acres of land as long as they stayed in the colony the five years that they had agreed. They could also receive half of any further land they cleared and were able to buy agricultural equipment from the Company in exchange for their produce.

The prospective settlers did not appear to be budding entrepreneurs. In terms of occupational background they included a shoemaker, a locksmith, a miner, a sawyer, a servant, a blacksmith, gardeners, agricultural labourers, *cultivateurs*, and carpenters among the men; seamstresses and daughters of *cultivateurs*, gardeners and agricultural labourers among the women. While these skills might have been thought useful among prospective settlers they did not impress the leaders of the expedition and it was claimed that none of them knew how to plough. One of the male colonist's father had grown grapes. However, at the time farm labourers were at the bottom of the peasants' social scale. Their wages were probably lower than those of town workers and they had a low standard of living. However, that of their employers was sometimes little better.⁵

The role of grapes and wine in French society at this period is often misunderstood. According to Zeldin (1977), France was not always a nation of wine drinkers. Wine was not universally consumed among the lower classes, it was very much the drink of the well-to-do. Peasants had to be content with *piquette*, produced by running water over the grape residue after making wine⁶. Wine production expanded widely in the nineteenth century with the growth in democracy, with the development of France's internal transport systems, particularly the railways, and with the removal of internal tariff barriers. At the time of emigration, the wines of the Bordeaux were probably known better in London than in Paris!⁷

1.3 Preparations

The Duc de Decazes concerned himself with the details of the plants and animals to be taken for the settlers, particularly how they could be helped to survive such a long journey. Besides animals, provision was made for mulberry cuttings, hops, grain, potatoes, grapevines, tobacco rape, various fruit trees, walnut and chestnut trees, vegetable seeds and soft fruit and asparagus cuttings. None of Decazes' correspondence mentions grapes although he paid careful attention to the transport of other plants. However, Decazes was advised by Balguerie et Compagnie on the 10 January 1840:

“Nous ferons ramasser des plantes de vigne sur la propriété de Mr J. J. Balguerie, dans l'Entre Deux Mers, en choisissant de préférence les raisins bons à manger”⁸. (We shall obtain some grapevines from the property of Mr J. J. Balguerie, in Entre Deux Mers, choosing in particular good eating grapes.)

None of the other correspondence specifically mentions grapevines before the colonists departure from France.⁹

1.4 Landing and establishment

After their arrival at Akaroa, the French naval commander Lavaud reported to the Navy Minister on 30 November 1840:

“..quelques plants des vignes nous donnent des espérances, mais résisteront-ils aux vents et aux froids?” (...some grapevines look hopeful, but will they resist the wind and the cold?)¹⁰

Later de Belligny, agent of the Nanto-Bordelaise Company reported to Decazes:

“Les plants de vigne que nous avons apportés de France se sont assez bien conservés. Chez quelques colons plus entendus que d’autres à ce genre de culture elle déjà poussé des rejetons assez forts.” (The grapevines we brought from France have survived the journey fairly well. Some settlers have been more able than others and they have produced quite strong growth.)

“Il y a ici des localités qui me paraissent particulièrement exposées pour la vigne. Je ne doute pas que nos colons de la Saintonge ne profitent un jour de leur expériences pour tirer avantage de cette exposition, si le plus grand fléau de la vigne, la grêle ne fait abandonner par sa force et sa fréquence, cette branche si importante d’agriculture. (There are some areas here which seem to me particularly suited to grape vines. I’m sure that our settlers from Saintonge will use their experience to take advantage of this situation, provided that the big enemy of grape vines, hail, by being too frequent or intense, does not make them abandon this particularly important branch of agriculture.)¹¹

Despite de Belligny’s optimism about the viticultural skills of the settlers, the Company still saw the necessity to purchase for 50 francs *Traité de la culture de la vigne*, although many of the settlers could not read!¹² Perhaps that was for de Belligny’s benefit as one of the few educated men in the party and as a scientist sponsored by the *Muséum d’Histoire Naturelle*, Paris¹³.

The successful transportation of the grapevines was also reported by Robinson, the first police magistrate at Akaroa, to Michael Murphy who visited Akaroa on the initial visit of the *Britomart*. Murphy was the Port Nicholson Police Magistrate and also vice president of the horticultural and botanical society¹⁴:

“The Maize, Tobacco and Vine plants look thriving - the vines have however been partially injured by the bitter and strong gales from the South West”¹⁵.

1.5 Viticultural progress

Eye witnesses at various times during the middle of the nineteenth century suggest that the vines were continuing to prosper, but there were no commercial developments. Besides the small size of French colonists’ land holdings and lack of entrepreneurial aspirations, the remoteness of their location also would have impeded significant commercial development. In the early years their uncertain title to their lands would have been another impediment. When Bérard succeeded Lavaud in 1843 there were still uncertainties about French land titles. When he arrived at Akaroa he found some of the colonists so distressed that they wished to return to France in spite of obtaining good yields of crops. Moreover, they had no immediate market for their produce save

for passing shipping. His reassurances that the Company's land grant had been recognized and that their titles were safe encouraged them to remain after some uncertainty¹⁶.

In 1857 *The Lyttelton Times* wrote of Banks Peninsula and Akaroa as it described "Progress in Canterbury, New Zealand"¹⁷. It focussed on their separateness to the Canterbury Plains:

"Banks's Peninsula, This is a portion of our soil, which, though close to Lyttelton and abounding in resources which are denied to the rest of the province, is from some cause looked upon as wholly independent of the remaining country. It is almost an island framed in lofty hills, and covered generally with a dense forest. It possesses splendid harbours, and contains some of the most beautiful scenery in the Southern Island. From its physical conformation, it is divided into distinct bays, enclosed between the spurs of the hills, which almost wholly preclude convenient access from one to another. It follows that they are approached only by water for any purposes of trade...The principal place is Akaroa, a magnificent and excellent harbour, where a small town of the same name, originally founded by a French company, is situated... The fertile soil and warm climate, many degrees warmer than the plains, produce fruits and vegetables in great profusion; wood and water are plentiful...

Meanwhile there is very little sympathy between the settlers in this locality and those upon the plains. Besides the foreign element introduced by the original settlement from France, few of the inhabitants are led by business or pleasure to the open country, and those who come thence to Akaroa are not bound on business. Consequently Banks's Peninsula might as well be an island, far out at sea, and its population men of another race and language."

It was hardly surprising that an 1848 French map of the Peninsula described it as *CARTE DE LA PRESQU' ILE DE BANKS* or Map of Banks' Almost Island¹⁸.

In 1862 and 1866 William Nevens Watkins painted landscapes of his relative, Dr Daniel Watkins', rural section, house and surrounding land at Akaroa. Both pictures show extensive plantings of vines with French Bay in the background.

Another observer of Akaroa and diarist, Robert Dawber, arrived at Lyttelton on 13 February 1869. On 23 February he left Christchurch for Akaroa, via Lyttelton and Pigeon Bay. He reported that he walked by several vine gardens on his way to Akaroa. Also that there was a large collection of splendid fruit at the Horticultural Show on 3 March. Then on 8 March he went into a M. de Malmanche's garden, orchard and vine garden. "His vines are loaded with grapes, black, white and muscatels..."¹⁹. On 15 April he went to the Land Office to see a plan of land he was about to buy and called at Felgrave's: "...went up to his garden and had a bunch of his grapes off the vines growing in the open garden"²⁰. Then on 15 May the entry describes the culture of his recently acquired vines:

"...Munns promises to cut and train the vines at my house and property. His is bearing a splendid crop and mine has the same aspect but in a more favourable situation."

According to a later entry he had three grape vines around his house and fifty others in the garden²¹. For 28 June he recorded that he trimmed (pruned) most of the vines in his garden. He had been shown how the Frenchmen pruned theirs. He had also planted a lot of vine cuttings.

For 15 July he records that Mr Munns had trimmed and trained the vines on the house. The diary concludes with Dawber's departure to collect his remaining family from England. Dawber could not be described as a typical colonist for Akaroa as he was a man of some capital, which had enabled him to purchase his house and land. His interest in viticulture appears to be just that, interest without detailed knowledge.

Another diarist, Mary Anne Hastings, described a visit she made to Akaroa from her home at Southbridge on 17 November 1870:

“...We also paid a visit to an old Frenchman and his wife who have a garden and a vineyard on the hillside; the vines in rows about as tall as current bushes, he gave us wine of his own making. Akaroa was originally settled by French people, they gave it quite a distinctive character...”²².

Until 1872 heavy goods would have had to be transported by sea. Only then did direct land access become available. When the first carriage journey between Christchurch and Akaroa via Little River occurred in 1872 *The Press's* correspondent looked landwards upon entry to Akaroa and saw the cottages of the French settlers, “..each with their little vineyard dotting the hillside, and making a pleasant feature in the landscape”²³.

Romeo Bragato's visit for the New Zealand government

Romeo Bragato (1858-1913) was born in Croatia, then part of the Austro-Hungarian Empire, in 1858. Initially he trained as an architect, then at the Royal School of Viticulture and Oenology at Conegliano in the Veneto wine producing district. Following his graduation in 1883 he worked at a research station and then as a wine maker for a cooperative. About 1887 he went to Melbourne, Australia as Viticulturalist to the Victorian government. In 1889 he published a report on the potential for viticulture of Victoria. That led to him being asked to set up a school similar to that at Conegliano.

In 1895, at the request of Prime Minister, R.J. (Dick) Seddon, Romeo Bragato visited New Zealand to assess its viticultural potential. Landing at Bluff on 19 February 1895, he worked his way north accompanied by a succession of employees of the Department of Agriculture. They looked at existing vineyards, tasted any wines made and considered areas where grapes might be grown for wine production. His report, *Prospects of Viticulture and Instructions for Planting and Pruning*, was presented to the Government on 10 September 1895. Besides identifying many areas subsequently developed from the mid 1970s, he also found Phylloxera in Auckland and recommended how the pest should be managed.

Subsequently, in 1902, he accepted a job as Government Viticulturalist based at Waerenga (Te Kauwhata). In 1906 he published a book, *Viticulture in New Zealand*. Then in 1909, partly as a result of the Government's lack of receptivity to his ideas, he resigned. He died in late 1913 in Vancouver²⁴.

1.6 Viticultural decline

Bragato reported in 1895 that (p. 6):

“The wine industry (at Akaroa) prospered as long as those whom it was started remained at the helm, but immediately they began to die off, the vineyards became neglected, and in consequence the vines died out.”

Bragato had travelled through Central Otago, of which he perceived the viticultural potential, before entraining at Dunedin for Christchurch. Thence, via a brief visit to Lincoln College, on to Akaroa. Bragato's remarks are cut short in the quotation used by Cooper in his book²⁵. If Cooper had continued the quote a more thorough explanation of the disappearance of the vine would have become apparent:

“...It would seem that the pioneer French settlers of Akaroa failed to communicate to their offspring even a small percentage of that enthusiasm over the cultivation of the vine which they were in such large measure possessed of, or it may be their descendants suspended work by reason of the vines becoming attacked with oidium, thus causing the disappearance of vineyards which had been to their forebears as a bit of the fatherland.”²⁶

Oidium (powdery mildew) originated in the USA. It had invaded Europe in the middle of the nineteenth century. By the late 1870s the devastation caused by the fungi was widespread in New Zealand as well²⁷. Again this is only a partial picture of why Akaroa did not become the “Vineyard of Christchurch” as Bragato predicted. He perceived it as a district “...splendidly suited to the cultivation of the vine”²⁸. However, his next remark indicates the major problem in getting a suitable industry established:

“...If capitalists could be induced to invest some of their money, encouraged and assisted in their enterprise by the Government, they would undoubtedly be richly rewarded, and Akaroa acquire world-wide fame”²⁹

However, as we have already seen, in no way were the early French settlers capitalists. They had come from a range of impoverished backgrounds and had escaped poverty in France in the hope of a better life in the Antipodes.

While the situation had deteriorated by Bragato's visit in 1895, Hay, reminiscing on earliest Canterbury in 1915, recalled the French and German settlers as “...industrious, law-abiding, kind, and hospitable.” While they had every chance to acquire large land holdings they were not greedy for land. As Hay expressed it:

“For the most part they appeared to be happy with holdings of about five acres, but such properties as they did secure they cultivated industriously, growing fruit, especially grapes, with which they made a good deal of excellent wine”³⁰

The failure of a wine industry to develop at Akaroa may thus be attributed to a number of factors, some natural and some human. In spite of an especially favourable environment growing conditions may have also been good for extensive bird damage and from the 1870s for the spread of *oidium*. Further, at the human level, few of the settlers had the background, capital and entrepreneurial desire to establish a wine industry. Taken together with the remote location of the settlement and the cultural differences with the people of the plains, it seems hardly surprising that an industry did not develop. Other entrepreneurs in other more sympathetic parts of New Zealand still had substantial difficulties in getting an industry well founded in their localities.

PART II

DEVELOPMENTS POST BRAGATO: LINCOLN, RESEARCH TRIALS, TEACHING AND THE GROWTH OF THE COMMERCIAL WINE INDUSTRY

2.1 Introduction

Between Romeo Bragato's visit in 1895 and 1973 little of lasting significance happened in Canterbury grape production and wine making. In 1973 a serendipitous meeting of two individuals led to the explosion of grape growing and wine making in Canterbury of the third millennium. Initially, the account considers what happened in the intervening years. The developments at Lincoln College are charted next, with a review of experiments on grape and wine production, teaching and publications, before finally the commencement of the commercial industry is described.

2.2 The years before 1973

The twentieth century history of wine in Canterbury is largely the product of the chance meeting of two very different men, one an academic fruit scientist working at the then Lincoln College and the other a Central European visitor of complex background, classical wine making skills and entrepreneurial tendencies.

The links between the early French winegrowers of Akaroa and these later pioneers are tenuous. After Romeo Bragato's visit in 1895 there were few serious attempts to establish a wine industry in spite of his urging the government to put money into what he saw as immense future potential. In a largely pastoral economy new crops received little encouragement. In addition, the times were not favourable. The turn of the century was a period of national concern over the evils of drink, and the virtues of abstinence. Cries for Prohibition were to feature at all elections through until the 1930s. Only returning servicemen are thought to have prevented a vote for Prohibition in 1919. The suburb of Sydenham in Christchurch provided two of the most active advocates of Prohibition, Tommy (T.E.) Taylor, a Member of the House of Representatives at various stages and later a Mayor of Christchurch, and the Reverend L. M. Isitt of Sydenham Wesleyan (Methodist) Church. Together they founded a Prohibition League and *The Prohibitionist* to pursue their national campaign.³¹ Establishing new wine ventures in such a climate in which Ashburton did vote to become 'dry' was always going to be problematic³².

Another factor was the place of wine as a drink in society. Cooper³³ has drawn attention to the lack of appreciation paid to wine at the period. Fortified ports and sherries were most in demand. However, even the more prosperous classes in New Zealand, who were the wine drinkers in the northern hemisphere, were uninterested in New Zealand wines.

Against this background there appear to have been only two serious attempts to establish grapes and wineries in Canterbury. The first was by Edwin Mouldey who bought a property on the east side of the Heathcote Valley in the 1870s. He planted plums, peaches, pears, apricots, tomatoes and grape vines. He was selling fruit wines from his Christchurch confectioner's shop by 1872.³⁴ "He made wines from local fruit and had a good sale. He said that teatottallers were good customers."³⁵ The other was by the Meyer brothers, the wine merchant owners of Bishop and Co., also in the Heathcote Valley, whose orchard was known as the Bridle Path Orchard. The Meyers bought it about 1941 and called their wine *Villa Nova*. However, none was ever sold to

the public because, as D W Meyer explained: “No one was interested in New Zealand wine then.”³⁶ The reason provided for the apparent failure of the experiment by the Meyers was that, although they had all the right equipment and had served their time in the vineyards of Victoria, South Australia and New South Wales, the humidity was too great. The problems appeared to have been caused by the late summer rains and heavy dew. The variety Albany Surprise had done best, but even then not very well.³⁷ With hindsight one might suggest that they had struck several cold seasons in Canterbury in succession.³⁸ They had planted several varieties of grapevine, but at that stage little was known about what was most suitable for Canterbury.

After World War II attitudes to drink and familiarity with wine changed because many returning servicemen had experienced wine while overseas. Attitudes to licensing became more relaxed and the number of sales outlets increased. Three major changes helped expand demand - the removal of the two gallon minimum limit on sales direct from wineries, the licensing of restaurants for wine sales and the development of winery sales from both winery restaurants and winery retail outlets.³⁹ With the increase in travel after 1945 and the growth of tourism, the market for grapes and wine began to exhibit more possibilities.

In Canterbury, no formal research was initiated but a lot of interest was expressed to the Ministry of Agriculture, who were asked on many occasions about the possibilities of growing grapes and making wine in areas such as around Banks Peninsula.⁴⁰ George Hicks, a local Horticultural Advisory Officer, reported his informal experiments on growing over fifty different varieties of grapes in *The City Beautiful* in 1973, but most of these varieties were being rated on factors other than suitability for classic wine production, such as appearance for covering garden pergolas, disease resistance or resistance to wind damage.⁴¹ However, a start had been made to the systematic study of grapes suitable for Canterbury conditions.

2.3 Grapes at Lincoln College - From 1973

At this time developments at Lincoln College became important. Founded in 1878, the College is the third oldest agricultural teaching institution in the Commonwealth. Romeo Bragato, rated by Thorpy as the man who has a standing in New Zealand viticulture as great as James Busby has in Australia⁴², had visited Lincoln College briefly on his way to Akaroa in 1895. He described it as “splendidly conducted”, offering much appreciated privileges to the rising generations of New Zealanders.⁴³

Horticultural degree teaching commenced at Lincoln in 1949. However, the pastoral dominance in New Zealand agriculture did not encourage too much effort being put into marginal and speculative crops such as grapes. One of the horticultural lecturers in the 1960s, Graham Thiele, recognised the similarities between conditions at Motueka, at the top of the South Island, where he had been a Horticultural Advisory Officer, and the Moselle wine growing region.. He speculated that Canterbury was not too different and arranged for the planting of an experimental row of grape vines in what is now the University’s Orchard car park. They did not flourish and appeared to be affected by virus. The Principal of the day, Dr Malcolm Burns, ordered their removal⁴⁴.

One who came before their removal, Dr David Jackson, was a recent College appointment (1968). David Jackson came to horticultural science almost by accident. Born in England, David had come with his parents to Nelson in 1952 when he was 16. He had no career mapped out for him, but he was very keen on gardening which his parents were not. They gave him a free hand to do what he wanted in the garden. As a result of this and casual work in apple

orchards and Nelson's Parks and Reserves Department, his interest was noted by the Superintendent who encouraged him to follow a course in horticulture. Initially a traditional Parks and Reserves training of an apprenticeship followed by a period at Kew Gardens in England was suggested. However, on David's last day of employment, before returning to school, the Superintendent changed his suggestion. He thought David should attend either Massey University or Lincoln College and take a horticultural degree. Lincoln was chosen because David's parents liked the idea of moving to Christchurch. After a year's Intermediate study at the University of Canterbury and three years at Lincoln a Bachelor's degree was achieved, followed by a Masters degree with Honours⁴⁵.

Employment with the Department of Scientific and Industrial Research (DSIR) at Havelock North followed as a fruit physiologist with special interest in apples. The DSIR sent David to the Waite Institute in Adelaide to do a PhD on apricot physiology, where he spent three years (1961-4). Although Adelaide is close to the South Australian wine areas, such as the Barossa valley, proximity did not create an interest in grapes at the time. Nor did the fact that his supervisor, Dr Bryan Coombe, was one of the world's finest viticultural scientists. But South Australia did start the Jacksons drinking wine. After a further spell with the DSIR, where he studied stone fruit such as apricots and peaches, David was appointed as a Lecturer in Fruit Production at Lincoln College, where he had been a student. Only then did he get involved with grapes.

While lecturing on fruit production David also had to lecture in grape production although he admitted he did not know a lot about the subject. One of the differences between grapes and other fruits was in the patterns of flowering, a subject that intrigued him⁴⁶. Most pip and stone fruits flower soon after bud break but grapes some six to eight weeks later. This contrast stimulated David's scientific imagination. The significance of grapes would also have struck him from his lecture preparations, for in 1971 wine, dessert and dried grapes were the most significant fruit crop world wide in terms of yields by weight⁴⁷, ahead of citrus production, bananas and apples, the next most significant crops..

2.3 Fermentation experiments at Lincoln - the Serendipity factor

At this point a happy meeting of people occurred which nobody could have logically foretold. Among Lincoln's staff at that period was Dr Paul Mulcock, Reader in Microbiology. Paul had been an amateur fruit winemaker for many years and had a scientific interest in fermentation and yeasts. Paul had been contacted by Bill Turner, President of the Canterbury Fruitgrowers Association at the time. Bill had made small batches of cider for some years and wanted to develop to a larger scale to help utilize a forecast surplus in apple production. He was having problems with his larger scale fermentations and sought Paul's help. Bill suggested that Paul apply to the Fruitgrowers Federation for a grant to fund the necessary research.

By the time the application was made in February 1973 another party, Danny Schuster, had entered the equation. A native of Prague of German father and Austrian mother, Danny had trained in grape growing and winemaking at the Melnik Institute, about fifty kilometres north of Prague in the small Bohemian wine producing district. He had met Mulcock and Turner as a result of trying to contact a kiwi girl he had met previously in Australia, where he had been working for two vintages for Seppelts, the winemakers.⁴⁸ Danny had taken six months off to travel in New Zealand, before moving on to South Africa for the next vintage. The research application was successful. Danny, who had been specifically mentioned in the application, was taken on by Lincoln College for the project under the supervision of Paul Mulcock⁴⁹.

However, while at Lincoln, Danny Schuster, the European grape grower and winemaker of some experience, met David Jackson, the Kiwi academic fruit scientist and teacher with no hands on experience of grape growing and wine making. That meeting was to create the sparks which led to the revival of grape growing and winemaking in Canterbury that Romeo Bragato had envisaged back in 1895 for Akaroa⁵⁰. While their meeting was fortuitous, no plans were immediately available to promote the ideas which so stirred them. David Jackson had worked long enough at Lincoln to appreciate that the roles of the academic were not just to research and teach but also to extend those ideas to the communities served by the College. The key question was how to do this. There was known to be considerable interest in the potential for wine production, and even the Prime Minister of the day, Norman Kirk, was drawing attention to its potential⁵¹, perhaps prompted by David Jackson who was himself involved in the political campaign for the 1972 General Election as a Labour candidate for Riccarton.

Something to gauge the level of serious interest was needed. It was provided on Paul Mulcock's initiative when he suggested the possibilities of a winemaking seminar a few days after the Prime Minister's suggestion⁵². It was advertised as "Fruit Wine Making for the Amateur" on Saturday, 19 May 1973, at \$1.50 per person. The minimum attendance was expected to be seventy-five. It was substantially exceeded on the day with the big Hilgendorf lecture room being full. There was sufficient financial surplus to buy grape and wine books for the College Library.

The programme was opened by H R (Sammy) Sampson, Director of the New Zealand Fruitgrowers Federation Ltd., followed by Paul Mulcock on "Yeasts in Wine Making". Then came Danny Schuster speaking about "Viticulture" and Peter Robertson, a Lincoln Masterate student, about "Flor Yeasts". After Lunch David Jackson talked about "Fruits - their Growth and Maturation". Then followed two local fruit wine producers: Tony Barker of Barkers Wines, Upton Cellars, Geraldine, on "Fruit Wines - Past and Present", and Bill Turner on "Cider and Apple Wines". The proceedings were closed by a further talk from Danny Schuster on "White Wines of the World", an Open Forum, and votes of thanks.

The interest generated by the Seminar had several effects. First, it led to an invitation to Paul Mulcock and Danny Schuster to attend a private meeting on Tuesday, 3 July, to discuss the feasibility of setting-up a commercial organisation to research viticulture in Canterbury.⁵³ Unfortunately, there is no indication of the success of the meeting. The Seminar stimulated David Jackson to begin his first planting of wine grapes to assess their suitability for Canterbury and began a whole series of activities which went on over several years promoting the possibility of growing grapes and making wine in Canterbury. The grape growing trials were complemented by taste panels set up to assess the quality of the product produced from the grapes grown. In addition, David Jackson and Danny Schuster began to work as co-authors and create a new range of publications highlighting the developments at Lincoln and putting the growing of grapes and making of wine in cool climates in a world context. Also, a series of seminars was initiated spreading the word about the possibilities of growing grapes and making satisfactory wines in Canterbury. Associated with them was a high level of interaction with those who were keen to produce wine in Canterbury and further afield in areas such as Marlborough, Nelson and Central Otago. Each of these developments will now be discussed in turn. However, it should be remembered that each did not happen in isolation but interactively with the others. In effect a whole systems approach needs to be adopted to understand what happened over succeeding years. One factor is evident. Subsequent developments all flowed from the chance meeting of David Jackson and Danny Schuster, including the initial seminar which stimulated the parties to further action.

Many parties were not convinced immediately. David Jackson had applied to the Lincoln College Research Committee for \$750 to investigate the idea of growing grapes in Canterbury⁵⁴.

Paul Mulcock has described how, as a member of the Lincoln College Research Committee, he had probably held back David Jackson's research plans by not immediately approving money from the College Research Fund for the research. As David described it: "He was not a believer". Paul Mulcock has acknowledged this and confessed:

"It's to my undying shame that I recall that I failed to recognise the significance of research into viticulture and refused support for David's request for funds for at least two years. So I must be considered to be a person who actually held back the work on production of wine in Canterbury."⁵⁵

Eventually the \$750 was given, which led David to reflect:

"It was a very small amount to ask for, but it generated enormous debate before it was granted....Nevertheless, I was happy to get the grant and I think it shows the flexibility of universities that they can give scientists a chance to try out 'oddball' ideas which just might have some potential pay-off."⁵⁶

2.4 "Experiments in viticulture at Lincoln College"

So David Jackson entitled his first undated experimental report, which must have appeared some time after the 1975-6 growing season. In spite of the initial lack of support from the College Research Committee, the first planting of trial grape varieties had taken place during the winter of 1973 after the first seminar. That planting nearly came to grief. Michael Cooper has described how seventy percent of the initial planting was lost to a late frost, throwing doubt on the suitability of Canterbury for grapes.⁵⁷ David Jackson and Graeme Steans⁵⁸, the technician involved, explanation of the heavy losses is slightly different. Apparently the planting material had arrived from Te Kauwhata⁵⁹ somewhat 'soft' from the North Island growing conditions. It had then lain in storage at Christchurch Airport over a weekend, so the plants were water stressed. Then, after hurried planting it was caught by a very late and sharp frost. Whether the losses would have been as severe with 'hardier' plants, which were unstressed, is debatable.

In the preamble to the first Report, the reasons for the trials were explained. First, there was the number of visitors expressing their belief that the dry climate together with a relatively cool season would be ideal to produce a German style white wine. Secondly, there was evidence from home gardeners that grapes could be grown successfully in Canterbury⁶⁰.

The trials started by focussing on varieties grown in cooler climates, then moved on to those from warmer areas. Those first trials included the following varieties, sometimes as several clones:

Gewürtztraminer, Riesling Sylvaner, Riesling, Grey Riesling, Sylvaner, Pinot Blanc, Pinot Gris, Pinot Noir, Gamay de Beaujolais, Semillon, Chenin Blanc, Sauvignon Blanc, Sauvignon Vert, Chasselas Rose Royale, Chasselas Dore Saloman, Ehrensfelser, Osteiner, Reichensteiner, Gutenborner, Muscat Ottonel, Merlot, Malbec, Refosco, Pinot Meunier, Cabernet Sauvignon, Hermitage and Pinotage..

Table grapes were added to the collection later.

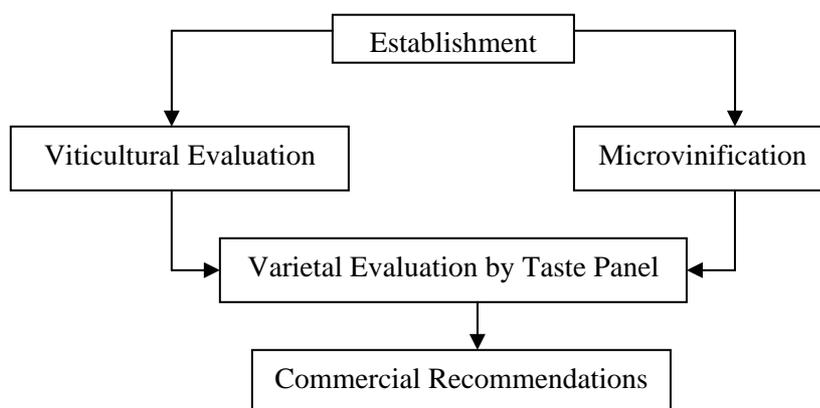
This early report appeared much sooner than might be expected for a scientific report. David Jackson felt it necessary to explain why. First, several people intended to plant grapes without waiting for the results of the research and he believed the early results might be of some assistance to them. Secondly, the 1975/76 season was exceptionally bad. The total degree days⁶¹ at Lincoln were only 630 compared with an average level of 973 over the ten years 1965-1975⁶², and there was an early frost on 21st April causing leaf drop and killing some berries. David concluded that

“...any grape which ripened its berries this past season would be a fairly safe bet for most situations as warm as or warmer than Lincoln..”⁶³

The initial results suggested Gewürtztraminer, Pinot Blanc, both forms of Chasselas, and Sylvaner produced reasonable sugar and acid levels. Pinot Noir and Gamay de Beaujolais were rather high in acid but not impossible. Pinot Chardonnay, White Riesling and Hermitage were all too high in acid, but allowing for the poor year still exhibited some potential. The recommendations concluded, with cautions for those wishing to grow grapes in South Island conditions, that they should be aware that considerable skill and finance were necessary to grow such grapes and make wine from them when their prospective yields and economics were still unknown.⁶⁴

In the next report of the trials, *Report from the first major grape crop at Lincoln College* (30 June 1978), David Jackson explained how the trials had expanded to cover 40 wine grapes and 20 table grapes. Also, that pruning and training trials had commenced with 14 different systems. 1978 was the first season when many of the grapes in the variety collection matured and so were comparatively assessed for sugar and acid levels. Microvinification⁶⁵ had begun and that led to the introduction of taste or sensory evaluation panels. Assessment of the output was also reported for the first time. Danny Schuster played an important role in setting up these processes and they formed an important part of the whole experimental programme. In day-to-day operational terms they were run by Graeme Steans, who brought his scientific training to their operation.

Figure 1: Stages in the cultivar evaluation research programme



David Jackson himself provides a good overview of the tasting panels' operations:

“The panel contains 15 members of which a minimum of ten meet on each occasion. They all have some connection with wine, either as wine merchants, winemakers, grapegrowers, members of wine appreciation societies, or scientists. Each has been instructed in the aims of the panel and method of using the tasting sheets.

The main tasting form is....used routinely on each cultivar over a three year period. On some occasions, triangular tasting is adopted to assess comparative values - say between different lengths of time on the skins or different grape sources.

At each tasting, the wines are grouped according to similarities in alcohol level, flavour and aroma (eg. Herbaceous, flowery, neutral), age and, of course, colour.

Tasting takes place four times a year and an average of 15 wines, including duplicates, are evaluated at each session.”⁶⁶

Over the years of their operation the Lincoln taste panels included the following on a regular basis: Professors Don Beaven, Ivan Donaldson and John Lovis of Christchurch; Winemakers: Herman Siegfried, G Collard, Brother John Cuttance, Andrew Ewart, J Hancock, Alan Hogan, Dr N McCallum, Daniel le Brun, Tim Finn, A D Hendry, Marcel Giesen, T van Dam, and John Thom; Wine Merchants: Tom Maling and Humphrey Meyer; and Radiologist Graham Watson, retired dentist Alan Cookson, and DSIR botanist G C Kelly, who was also a national wine judge.

It should be noted also how well placed the panellists were to convey to their peers in the industry what was happening at Lincoln. There can be no doubt that the taste panels were one of the major ways in which the possibilities for Canterbury wines were spread to a much wider audience than just that of the academics doing the research and winemaking. The taste evaluation panels operated from 1978 to 1984.

1978 was a good weather season for grapes, with a low level of incidence of pests and diseases. There was some botrytis (Noble Rot), which would have permitted *auslese* types of wines with Riesling, if the weather had held. Mesuro⁶⁷ was used to deter birds. Irrigation had not been used for established plants and reasonable yields were obtained.

The following year a more substantial report brought the results together for the seasons reported previously 1976, 1978 and some for 1979.⁶⁸

It began by recalling the key climatological factors in viticultural success and how they applied in Canterbury. In terms of heat accumulation Canterbury was on a par with other areas in New Zealand and the world producing excellent white wines. Secondly, Canterbury had low rainfall and might only need irrigation for getting new plantings established. However, wind was a problem and no one should expect to grow grapes without adequate provision for shelter such as the poplar shelter-belts used at Lincoln. While the buds of grapes burst at about the same time as apples, they were slightly more susceptible to frost being closer to the soil and thus more susceptible to ground frosts. The value of frost-free sites was thus emphasised, or alternatively a system of frost protection.

The most serious problem at Lincoln had turned out to be bird damage, followed by wasps when fruit had been punctured. Netting had been tried and then, while it was still allowed, Methiocarb or *Mesuro* as a chemical deterrent.

The introductory review finished with a description of the key aspects of sites for growing grapes in a marginal area such as Canterbury. The advantages of sloping sites (e.g., frost-free from natural air drainage, facing to the sun giving extra heat units) had to be balanced against the need for high levels of labour use and less convenience for machines. Finding the best soils was still a matter of trial and error, and no clear recommendations were made.

The report took a good deal of space to explain, often diagrammatically, the training systems and spacings being trialed. For example, Gewürtztraminer was grown on narrow and wide row spacings. With the narrow one there was low sunlight exposure and delayed ripening, whereas the wider one, although riper, required earlier picking because of rain damage and disease. First indications of possible yields were also presented for the different training and spacing systems. 1979 had 880 Degree Days. Pinot Meunier and Pinot Noir had rather high acid levels. Muller Thurgau was well balanced in terms of sugar/acid ratios, while some varieties were very late in ripening.

2.5 Seminars, Workshops and Courses

While the experimental programme was proceeding, seminars, workshops and courses were held for interested parties to give them an early insight into what had been learnt and help them with their own growing plans. Such events were not only well attended but also often documented as a valuable source of local information for both participants to reflect on and as original information for others unable to attend.

After the initial seminar in May 1973, there was a gap until November 1975. At that time we find David Jackson and Mike Mellon (Lincoln College, Marketing) being quoted on the front page of *The Press*⁶⁹ as saying that they believed that those involved in grape growing, winemaking, wine distribution and retailing had little opportunity for training in New Zealand. Seminars were shortly to be offered at Lincoln College offering "...invaluable experience in the art and technique of wine testing and providing guidance for those buying the wines of Australia, New Zealand, South Africa, France and Germany." These were to be supplemented by discussion of: "Basic principles of grape growing and winemaking, and new techniques of winemaking, on both small and large scale."⁷⁰

Another one day course followed in April 1976 entitled "Grapes, Wine and Winemaking", which was designed to provide basic information for people wanting to grow grapes and make wine in Canterbury:

"...It will interest those contemplating the establishment of commercial production units and also growers of limited quantities for personal consumption."⁷¹

Two reasons may be advanced for the delays between the initial and subsequent courses. After the initial seminar for amateur winemakers Danny Schuster had left for South Africa to continue his worldwide wine experience in the Stellenbosch area. Then he went back to Europe after two vintages and David Jackson, who had kept in touch with him, met him again in Bordeaux while on Study Leave. David was able to bring him up to date with how things had developed at Lincoln and the more promising prospects for the future. So in 1976 Danny returned to work for Montana in Blenheim. He had chosen strategically to be in the South Island and close to developments at Lincoln. The appointment at Montana was as a Viticulture Advisor, helping with the huge propagation and planting programme they had commenced quite independently in 1974⁷². While Danny was working for, and being paid, by Montana he was regularly came down

to Christchurch and Lincoln in 1976, 1977 and 1978.

The April 1976 one-day course for intending grape growers and winemakers was largely a Jackson and Schuster affair. David spoke on three topics. He opened by reviewing the climate of Canterbury in comparison with other parts of New Zealand and world grape growing areas, together with suitable grape varieties. Secondly, he spoke about basic viticulture, and thirdly about the pruning experiments in the Lincoln College vineyards. These presentations were interspersed with papers from Danny Schuster on wines produced in other parts of the world with similar climates to Canterbury, and on pruning the young vines and establishing training systems. To these presentations were added papers by Mike Mellon on basic considerations in labelling Canterbury wine and by Maurice Hunter of Omar Wine Cellars on latest consumer trends. The proceedings were concluded by Paul Mulcock on yeasts and fermentation, and by another indispensable member of the Lincoln team, Graeme Steans, on making wines in small quantities. Graeme brought important technical skills to the team from his many years as a science technician.

The content of the more extended courses from November 1978 has been preserved in *Bulletins 22A Papers in Viticulture* and *22 B Papers in Winemaking and Wine Evaluation* (Department of Horticulture, Landscape and Parks, Lincoln College, 1979) together with a supplementary paper from David Jackson and Graeme Steans: "The potential of southern areas for wine-grape production" which summarised their view at that stage of suitable districts and varieties for wine-grape production.⁷³ The first one-day course was for prospective growers and small-scale wine makers in the South Island, whereas the second, a two-day course, was an advanced course for commercial growers, winemakers, wholesalers and resellers from both North and South Islands. These courses also introduced a much wider range of speakers, including Wine Scientists K Cresswell, I A Gear and D Sheat of Ruakura Agricultural Research Centre's Te Kauwhata Viticultural outpost, Hamilton; Horticultural Advisory Officers (Ministry of Agriculture and Fisheries) A D Clarke (Auckland) and R D Pollock (Gisborne); Winemakers G Collard of Henderson and D S Lucas of Cooks Wine Co., Auckland; Professors D W Beaven (Medicine), Christchurch School of Medicine and R A M Gregson (Psychology), University of Canterbury; as well as J E Marris, Project Manager, Montana Properties Ltd., Blenheim, Dr D Milne, Soil Bureau, Department of Scientific and Industrial Research, and N J Mackenzie of the New Zealand Wholesale Wine and Spirits Merchant Association.

Attendance at courses continued at a reasonable level with many of those participating going on to play significant roles as both grape growers and winemakers. Of the 77 who attended the courses offered in February 1980 nearly a third went on to become grape growers, and of them nearly two thirds also became winemakers. They included Ernie Hunter, Tim Finn, Allen Hogen, Anne Pinckney, Rolfe Mills, John Thom and the Mundys from St Helena.

The 1980 courses were also offered in Hawkes Bay at the DB Te Mata Hotel, Havelock North. This was the only occasion on which a foray was made into the North Island.

Lincoln only discontinued its provision of courses for training personnel in the wine and spirit industry when Te Kauwhata appointed a new Viticulturist, Richard Smart, who began a series of courses. By that time, in the early 1980s, David Jackson believed the initial aims of educating the industry had been largely achieved and those wanting further information had a substantial body of local literature they could refer to as well as still being able to make direct contact with the experts at Lincoln.

2.6 Publication

An indispensable part of promoting the South Island as a possible site for quality wine production could be explained through courses, seminars and workshops, but what was there to help potential growers when the course was over? Regular interaction between researchers and potential growers and winemakers was encouraged from Day 1. There were none of today's concerns about commercial sensitivity. This was information for New Zealand's potential grape growers and winemakers, paid for through the public funding of a university college, and to benefit those who chose to use it, whether from small businesses or large. In practice, because money had been tight at the start of the research, systems to operate on a shoe string were put in place and continued to operate. For example, members of the taste panels donated their own time and sometimes travel. Hermann Siegfried used to combine the panel's sessions with sales trips to Christchurch. Direct involvement with panel members was sustained through regular reports on the outcomes of the panel's deliberations and also fed back through the content of courses, seminars and workshops. The latter went further than merely publishing the research results. Participants were encouraged to taste the experimental wines themselves.

Nevertheless, publication was a major part of the overall dissemination of the results. Early in his teaching days at Lincoln David Jackson had discovered there was little that was available, at an appropriate level, for potential grape growers and winemakers in cool climates. To assist with his teaching of full time horticultural students he produced first in 1971 *Notes on Fruitgrowing*. This was David's distillation of information about a whole range of fruit crops of which grapes were only one kind. That reappeared in a revised form in 1974 as Bulletin 15: *Temperate and Sub Tropical Fruit Production*, Department of Horticulture, Lincoln College, and later again in 1999. Meanwhile the first seminar for amateur wine makers had occurred and David Jackson had combined with Danny Schuster to produce their first joint publication *Possibilities for grape growing and winemaking in the South Island of New Zealand*⁷⁴, under a cover entitled *Basic Winemaking*. These, and the results of the Lincoln and other research, came together in David and Danny's first book *Grape growing and winemaking: a handbook for cool climates* of 1981. So successful were the ideas embodied in the book that it has been through four editions under different publishers and had a world-wide demand. So well has it done that David is described by his current publisher as one of her more successful authors. *Grape growing and winemaking: a handbook for cool climates* has been supplemented by a new series *Monographs in cool climate viticulture*. The first volumes by David Jackson alone are entitled: *Pruning and training* and *Climate*.

Lincoln Grape and Wine Publications 1973-2002 in Chronological Order

Jackson, D I (1971) *Notes on Fruit Growing*. Gestetnered typescript, Department of Horticulture, Lincoln College.

Jackson, D I and Schuster D F (1973) *Possibilities for grape growing and winemaking in the South Island of New Zealand*. Gestetnered typescript, Department of Horticulture, Lincoln College.

Jackson, D I (1974) *Temperate and Sub Tropical Fruit Production*, Bulletin no. 15, Department of Horticulture, Lincoln College.

Jackson, D I and Schuster D F (1975) *Basic Winemaking: a World View*, Bulletin no. 18, Department of Horticulture, Lincoln College.

Schuster D F and Jackson, D (1977) *Grape Varieties for New Zealand*, Bulletin no. 21, Department of Horticulture, Landscape and Parks, Lincoln College.

Anon. (1978) *Grapes and Wine*. Bulletin no. 22A Papers in Viticulture, Bulletin no. 22B Papers in Winemaking and Wine Evaluation, Lincoln College.

- Jackson, D I and Schuster D F (1981) *Grape growing and winemaking: a handbook for cool climates*. Alister Taylor: Martinborough.. 1st Edition.
- Jackson, D I (1984) *The grape experiments at Lincoln College*. Bulletin no. 36, Department of Horticulture, Landscape and Parks, Lincoln College.
- Jackson, D I and Schuster D F (1987) *The production of grapes and wines in cool climates*. Butterworths Horticultural Books: Wellington. 2nd Edition.
- Jackson, D I and Schuster D F (1994) *The production of grapes and wines in cool climates*. Gypsum Press: Wellington. 3rd Edition.
- Jackson, D I (1997) *Pruning and training*. Monographs in cool climate viticulture:. No 1. Department of Plant Science, Lincoln University Press: Lincoln, N.Z.
- Jackson, D I and Schuster D F (1997) *The production of grapes and wines in cool climates*. Lincoln University Press: Lincoln, N.Z. 4th Edition.
- Jackson, D I (2001) *Climate*. Monographs in Cool Climate Viticulture, No. 2. Daphne Brasell and Associates with Gypsum Press; Wellington.

Internal publications

- Jackson, D I (1976) *Experiments in viticulture at Lincoln College*
- Jackson, D I (1978) *Report from the first major grape crop at Lincoln College* (30 June 1978)
- Schuster, D F (1978) *Report on the 1978 vintage at Lincoln College*. 16 pp.
- The grape experiments at Lincoln College and preliminary results to 1979*. Typescript, no author, Department of Horticulture, Landscape and Parks, Lincoln College.
- Schuster, D F and Steans, G F (1979) *Report on the 1979 vintage at Lincoln College & Canterbury*. 16 pp.
- Schuster, D F and Steans, G F (1980) *Report on the 1980 vintage at Lincoln College*. 21 pp.
- Steans, G F (1981) *Report on the 1981 vintage at Lincoln College*. 21 pp.
- Steans, G F (1982) *Report on the 1982 vintage at Lincoln College*. 16 pp.
- Steans, G F (1983) *Report on the 1983 vintage at Lincoln College*. 18 pp.

Also *Reports of individual tasting panels at Lincoln College*, from 11/78 - 9/85 which were circulated to members of each panel for their reflections.

2.7 Commercial Production

David Jackson and Danny Schuster's 'odd ball' idea⁷⁵ of planting grapes in Canterbury was taken up more quickly than they might have imagined. This may have been stimulated by provincial rivalry, as claims had been made by Auckland speakers at a Lincoln lecture in 1976 that good wine could not be made in the South Island⁷⁶.

Banks Peninsula

Much of the early excitement about grape growing in Canterbury related to Banks Peninsula, the remnants of volcanic cones rising to nearly a thousand metres to the south east of Christchurch.. It had been the focus of Norman Kirk's remarks in 1973. In 1975 *The Press* reported plans to plant grapes near Akaroa⁷⁷. The development being referred to was probably a planned development by Murray Thacker at Okains Bay. The motivation for the planting was to generate long term employment in the Bay and so maintain the rural population.

Six grape plants from the French plantings at Akaroa had been successfully transplanted to Okains Bay in 1860. Unfortunately the nature of the site chosen and the inexperience of Danny Schuster in the area's drought prone character, coupled with other competing commitments from other plans, and the remoteness of the area from Lincoln, led to this development not being a success. With hindsight it is clear that irrigation at the time of planting was essential. Danny Schuster had long held the view that vines should not be coddled at planting, but be encouraged to get their roots down deep even if some plant losses were the consequence.⁷⁸ However, it must also be noted that the aims of the project were deficient. When the potential effects of planting a vineyard⁷⁹ in the wider Banks Peninsula farming community were realised, especially that grape planting would impact on the application of herbicides to noxious weeds, Akaroa and neighbouring counties amended their Planning Schemes under the Town and Country Planning Act 1953. The net effect was to remove vineyards from the list of Predominant Land Uses and thus require consent to be obtained from the County before planting commenced. This was likely to be difficult to obtain with farmer dominated Councils⁸⁰.

In contrast, when Graeme and Caroline Steans chose to buy land in neighbouring Wairewa County, they were able to proceed because the land was a separate legal title. Therefore they did not need permission from the County to subdivide. Also they restricted their planting of grapes to the one acre. Thus under the Agricultural Chemical Regulations 1968 they did not have a vineyard which would have required them to have permission for a Conditional Use. Graeme had objected when the County proposed to make vineyards a Conditional Use, but his objection had been met by many cross objections of a similar nature, the mark of the Banks Peninsula Noxious Weeds Inspector, H W Fawcett. Mr Fawcett was renowned for his zealous interpretation of the Noxious Weeds regulations. He has been described as holding back viticulture on Banks Peninsula for about twenty five years. Also he was disliked by local farmers⁸¹. The Steans believed there had been a campaign against their objection to the proposed change to the County Planning Scheme, so that Noxious Weeds control would not be affected. The County implemented the change⁸² anyway.

The Steans had chosen their site with a view to growing grapes for wine. Graeme was fully involved in the work going on at Lincoln as David Jackson's Technician. In planting his own grapes he was duplicating much of the work he was doing in the experimental vineyard at Lincoln. Further, he had the real world experience of Danny Schuster to call on. Also he had had some prior experience with grapes when he and some friends had planted some grapes on the site of the Meyers' vineyard in the Heathcote Valley⁸³. Although there were doubts about the value of red grapes in the South Island, Danny Schuster encouraged him to make one of the most important planting decisions he made. That was to plant a substantial part of the acre with Pinot Noir grapes. Unlike the planting for Murray Thacker there was sufficient moisture that first year (1977) for the vines on their section of the Kaituna Valley. It was the earliest private planting of Pinot Noir in Canterbury and has proved a very significant planting.

The Plains

Two plantings on the Plains flowed directly from involvement with Lincoln. Both occurred in the vicinity of Belfast to the north of Christchurch, close to the Waimakariri River. The earliest planting, by only a few days, took place on Bill Turner's Lochbuie orchard, near Belfast. After being associated with the introduction of Danny Schuster to Lincoln College and his initial employment, Bill had continued to be interested in the development of the new crop. While, at the beginning, Bill did not see wine having much of a future, he agreed to having a small trial planting away from Lincoln. With Bill's entrepreneurial character that initial planting led to a more substantial planting which began a couple of weeks before the better known planting of the

Mundys on Coutts Island. It was not on the same scale as Mundys, and of only about five acres of Grey Riesling, Gewürtztraminer, Pinot Gris and Pinot Noir initially..

One feature of Bill Turner's orchard enterprise was to play an important role in the future of New Zealand wine. For many years Bill had sold as much of the product of his orchard as he could to the public through a shop situated on the Main North Road out of Christchurch. It was an outlet for his own cider. Other cider was sold through local bottle stores. Bill's best salesman was Ernie Hunter, then Manager of the bottle store of the Imperial Hotel. Ernie became enthralled with the possibilities of New Zealand wine. As entrepreneurial as Bill, Ernie bought land in Blenheim for grape production. He intended to develop a winery with Bill Turner close to Christchurch, the main South Island centre of population. These plans came to nothing when appropriate planning permission could not be obtained. However, there was one important outcome. While waiting for the permission, the first harvest of Hunter's grapes took place. The winemaking took place at Lochbuie as Bill and Ernie were partners at that stage. The wines were made in a very primitive winery at Lochbuie involving an old stainless steel beer tanker of four compartments. Grapes from Bill Turner's vineyard were included. The wine was made by Almuth Lorenz, a young Geisenheim trained winemaker, who Ernie had met at a New Year's Eve party in Auckland in 1981. Almuth had persuaded Ernie to plunge into commercial winemaking⁸⁴. She became the winemaker and when the product was entered in the National Wine Competition six medals were obtained, three silver and three bronze. Hunters eventually built their winery in Blenheim and became one of the most significant private wineries there before Ernie's early death in a motor accident in 1987. Almuth Lorenz later set up her own winery in Blenheim too - Merlen⁸⁵. Bill took advantage of the 'Vine Pull'⁸⁶ scheme at the end of 1985 to exit grape growing following Ernie's departure to Blenheim.

Bill Turner's connection with the Mundys was also associated with his farm shop at Lochbuie, which sold their vegetables. When the Mundys considered growing grapes, a partnership was nearly formed. However, terms could not be agreed and both parties proceeded with their grape and wine plans separately. The Mundys' reasons for planting grapes were different again. Robin Mundy has explained:

"From 1964 to 1979 my brother Norman and I grew potatoes and other vegetables on our property at Coutts Island, but the potato cyst nematode knocked out our operation and we had to seek alternative crops. We contemplated kiwifruit, blueberries, peppermint and blackcurrants, then while at Lincoln College looking at blackcurrants, we noticed they were growing grapes and making wine....

Thanks to the experimental work done by Lincoln we were able to obtain cuttings⁸⁷ of the varieties best suited to our area. In 1978 the first 10 acres of grapes were planted and by 1981 we were growing 30 acres and approaching the first harvest...Danny Schuster, Lincoln's winemaker was employed and the winery was named St Helena⁸⁸. The small 1981 vintage sold out in one day!"⁸⁹

In 1983 St Helena won a national gold medal at the Air New Zealand Wine competition for its 1982 Pinot Noir. A plaque was presented to St Helena to commemorate this historic achievement. It really brought the attention of the country to Canterbury as a wine producing area. As with the Hunter wines which were made at Lochbuie and won medals, so the St Helena Pinot Noir was not just St Helena wine. It also contained the first grapes from Graham Steans' small area of Pinot Noir in the Kaituna Valley. Without irrigation his grapes had taken longer to get established. Their first harvest was in 1982 also. Danny Schuster had helped the Steans

harvest one ton of grapes into Mundy's blackcurrant bins. They were then held for about five days in a coolstore at the College until Mundy's grapes were harvested so that they did not lose condition.⁹⁰

Other early plantings

Another development which took place around this period was the plantings of John Thom and Julie Wagner at Larcombs Road, Rolleston. They planted their first grapes in 1980. John Thom maintained an association with Lincoln as he was involved in the sensory evaluation panels and also had field experiments at Larcomb Wines, although he chose to stay out of industry affairs. The Thoms have another claim to fame for they set up the first winery restaurant at Larcombs. They believed that the best way to sell wine was to give people a chance to try it while eating, and most of their wine was sold in this way. They began a trend, which in 1996 was described by Rosemary George, a visiting English Master of Wine, as being popular with so many Christchurch wineries. That she chose to remark on this characteristic suggests that it was an exceptional feature of Canterbury wineries, but it was the first step in setting up a winery tourism industry which is now such an important component of Canterbury tourism⁹¹.

At Burnham, also not too far from Lincoln, the Giesen Brothers from Germany, set up what has become the largest Canterbury winery, planting their first grapes in 1981. They wanted to grow Riesling in a cool situation and after much searching decided on a Canterbury site.. Their first wines were released in 1984. Marcel Giesen had participated in the taste panels at Lincoln which influenced him to produce his gold medal winning Canterbury Botrytised Riesling of 1990⁹².

Another group who were involved in sensory evaluation of the early Lincoln wines bought and planted what became known as the "Doctors'" patch on Kennedy's Bush Road at the foot of the Port Hills on the south side of Christchurch. It was only a small site of less than half a hectare but ideal for growing grapes. Its aspect was to the north and the sun; also, it sloped, so reducing the frost risks. The participants were an enthusiastic group of amateur wine lovers who were involved in taste panels and wanted to try their hands at growing their own grapes and making their own wine. They included Don Beaven, Ivan Donaldson, and Graham Watson who were doctors; dentists Allan Cookson and Neville Ackroyd; engineers Brian Hearfield, and Norm Hardie, who owned the land; and lawyer Paul Straubel. Their knowledge of wine was considerable but of growing grapes little. Nor were they practical types generally. Most of the grape vines came from Lincoln College with advice from Danny Schuster. All kinds of mistakes were made but they had a lot of good fun over the 22 years until they decided to terminate the project in 1998, when they averaged 74 years of age. The wine was not sold but consumed by the families involved. Two things are significant about the "Doctors'" patch. Besides the original plantings at Lincoln it was one of the oldest plantings in Canterbury and in 1997 and 1998 produced Pinot Noir wine "as good as the French"⁹³. Also, for the first few years the wine was made by Ivan Donaldson until his own Pegasus Bay Winery was established. Pegasus Bay planted their grapes in the mid 1980s and completed the first stage of their winery for the 1992 vintage⁹⁴.

Waipara

The planting of grapes at Waipara arose from the need to find alternative crops in an area of marginal, relatively small, sheep farms with a difficult climate prone to dry summers and prolonged droughts. The area had farms cut out of the former Glenmark Estate of George Moore in 1917. The farms had been subdivided according to their fertility. The McCaskeys on the Weka Plains had an above average farm area of over 400 hectares because they had poor stony

soils. It had been a run-off paddock for the large estate. It was John McCaskey's search for a crop "...which would grow in a desert"⁹⁵ which led to his first experiments with grapes in the mid-1960s. He had been flying across inland Australia and stopped overnight at Mildura in the irrigated hot sunny Murray valley in Victoria. Irrigated grapes were one crop growing there. He returned home and with hybrid cuttings from a neighbour, Ted White, planted his first nursery vineyard in the sandy soil alongside the Weka Creek. Unfortunately, this experiment was washed away by a flash flood after a couple of years.

Although John McCaskey made a serious attempt at grape growing in the mid-1960s, he was not the first attempt at grape growing in the Waipara area. The earliest known attempt occurred in the 1880s at Foxdown station at neighbouring Scargill in the Waikari Valley. The French wife, Sophie (nee Glasman, 1847-1893) from Alsace, of the runholder Charles Dilworth Fox (1852-1931) had recognised the potential of the limestone area from her homeland. An area was planted in grapes which is still known as "The Vineyard". The planting did not succeed, possibly because the frost free site was well above any possible source of irrigation and vine establishment would have been difficult.

Ack Rutherford, another Scargill farmer, also trialled several varieties of grapes in the early 1970s. According to his wife, Di, he was "...mad on wines", which he may have encountered while on war service in South Africa and Greece. The trials were not converted to a more serious planting when his son decided to "...do his own thing". He provided a site for Bob Crowder, Lincoln's Vegetable Production lecturer, to record temperatures between October 1971 and April 1972, when Bob recorded severe frosts throughout the summer, which would have probably affected tomato growth. The constant low night temperatures made for a very low heat unit accumulation (1546 units), lower even than for Hororata⁹⁶.

Another neighbour, Robert Forbes, also tried growing grapes about the same time. Son of George Forbes, Prime Minister (1930-1935), he was regarded as something of a progressive farmer. Unfortunately, he had been badly injured in a riding accident in the 1940s and was unable to cope with normal farm work. At the suggestion of Canon Walter Wisdom, Anglican Vicar of Glenmark⁹⁷, who had again recognised the geological features of the area as having grape growing potential, he established a grape nursery on land adjoining Weka Creek. The land was to be irrigated from the creek. Fourteen thousand grape-cuttings were brought in from the Mission Vineyard in Hawkes Bay to plant up 10 acres⁹⁸. The land was ripped in preparation for planting but it never occurred. Standard pastoral farming was not too bad in the 1960s, before the onset of the constraints introduced by Britain entering the European Economic Community, and so there was no real need to seek out alternative crops. Also, Robert not only had difficulty carrying out much of the necessary viticultural work due to his physical condition, but was also frustrated by lack of expert viticultural advice from either the Department of Agriculture or Lincoln College, with which the family had had a long association. The only source of information at that stage was a family of White Russians on Marshlands Road, who made wine for their own domestic use⁹⁹.

While both Forbes and McCaskey had recognised the possibility of growing grapes at Waipara, neither attempt succeeded. One major problem was clearly the drought prone nature of the district's climate. The good years of the 1960s were replaced by the economic turmoil of the 1970s - Britain's European accession, oil crises, and droughts from 1970 to 1973. In 1972 the New Zealand Agricultural Engineering Institute at Lincoln College was asked by a committee of local farmers promoting the development of irrigation, with the support of Waipara County Council, to carry out a feasibility study. This became the first stage of what became known as

the Glenmark Irrigation Scheme. It was based on the principle of water harvesting from floods and other high flow levels. The water harvested was stored in a range of ring and gully dams for use when moisture shortages began to impede growth¹⁰⁰. This irrigation system was derived from the Australian experiences of the chief engineer, Terry Heiler of the New Zealand Agricultural Engineering Institute, Lincoln College (NZAEI), and was unique in New Zealand at that time.

In July 1974 approval was given by the Water Resources Council to proceed to a final design, which appeared at the beginning of 1977. The NZAEI suggested that such a scheme would facilitate the economic viability of local enterprises. When the investigations took place viticulture was not foreseen as one of the possible outcomes¹⁰¹, save in an aside in Section 12 of the Final Design Report on Benefits and Justification for the Scheme. It mentioned: "...associated benefits not yet referred to"¹⁰². The chief economic benefits of the Scheme were seen as being a satisfactory rate of return on investment for farmers and sufficient additional farm income from traditional sources - fat lambs, wool, and cash crops - wheat, barley, ryegrass - to give economic viability to twenty one-man farms. The next paragraph holds the key to the development of non-traditional farm enterprises at Waipara. They were beyond the experience and comprehension of the farm management member of the irrigation system design team:

"The provision of irrigation in the scheme area will allow the possibilities of new ways of farming to be explored. It is considered by the staff of the Department of Horticulture at Lincoln College that the area is well suited to the production of many horticultural crops including vineyard grapes. Successful production of field tomatoes for the city market has been achieved by several farmers over the last two years, thus providing a significant amount of additional farm income. The further development of these activities is dependent on the provision of supplemental irrigation water."¹⁰³

The whole scheme was dependent on Government subsidies for major public works.

The successful production of field tomatoes stemmed from Lincoln's Vegetable Production Lecturer, Bob Crowder. He was attempting to find a mini-California in Canterbury, which would permit the growing of tomatoes suitable for machine harvesting along the lines advocated by Sims in California¹⁰⁴. Some of the tomato growing experiments had depended on the unauthorised extraction of water for irrigation on sites out of public view¹⁰⁵.

John McCaskey was first to take that next step and demonstrate the huge potential of his locality, when he chose to establish Glenmark Wines and planted his second area of vines in 1981. He planted just four hectares with vines from Tim Finn's Neudorf Winery in Nelson. The initial plantings were of Rhine Riesling, Chardonnay, Muller Thurgau, Cabernet Sauvignon, Pinot Noir and Gewurtztraminer grapes. On this occasion he had some small-scale irrigation organised that could deliver about one litre of water per week to each vine from a small dam in front of his house. This dam had been developed to water the experimental tomato crops grown for Bob Crowder's experiments. The assurance of the larger Glenmark scheme going ahead encouraged this move, which was further justified when Roger Douglas removed agricultural subsidies in 1984. That had the consequence of terminating prematurely the Glenmark Irrigation Scheme, when subsidised investments were stopped. Consequently only five out of ten dams were constructed and half of the potential area irrigated.¹⁰⁶

In 1985 the first experimental vintage was made by Steve Harber, a visiting American winemaker, who had made contact through David Jackson. The following year a new winery was opened by local MP and Minister of Tourism, Mike Moore, just two weeks after a Bronze Medal was obtained for McCaskey's 1985 Waipara Red. John had followed the planting advice as to varieties derived from the Lincoln experiments and paid tribute to that advice¹⁰⁷. That success heralded the future success of the district and was the beginning of a successful competitive career, which, at the time of writing, had yielded 39 medals of which four were Gold.

By 1987 the effects of the Fourth Labour Government's economic policies and the withdrawal of farm subsidies were having a serious impact on farming endeavours. Farmers were in survival mode as they struggled to pay off debt. Although John McCaskey, too, was substantially in debt from his previous irrigation and viticultural developments (to a level of about 110 percent of the equity in his holding according to John), his grapes got him out of trouble. This was because he was able to subdivide land for further vineyards¹⁰⁸. In total, some 19 vineyards have been established from John's original Weka Plains holding. He also managed to persuade the Rural Bank, with some difficulty, to continue funding his improvements. The bank eventually got all their money back from what many people doubtless had considered a very risky venture¹⁰⁹. If the bank had required John to sell up, Waipara might never have attained its present-day fame as a wine district.

Subsequent to the McCaskey development in 1981, four other viticultural developments occurred in 1982. Geoff Mavromatis, a horticultural advisory officer with the Ministry of Agriculture and Fisheries, had established some trials on Bruce and Jill Moore's property in 1979. Various horticultural crops were subjected to trials there, among them feijoas, herbs, lavender, and grapes. Bruce Moore and Derek Quigley, for whom he was acting as manager at the time, had been looking for alternative crops. Their investigations suggested grapes and asparagus, but extra capital was needed for such a development. The necessary money could not be raised and so they had to take in other partners. The banks regarded Waipara as an unproven grape growing area. In the business plan developed, each of the four partners would plant four hectares of grapes. Bruce and Jill Moore planted Pinot noir, Cabernet Sauvignon, Chardonnay and Sauvignon blanc. Derek Quigley planted Gewürtztraminer and Chardonnay. John Corbett planted Riesling. The Glenray partnership (Paul Quigley, Daryl Harris and Tony Willey) was established just to the north of the Waipara River and east of the main road north. It planted Cabernet Sauvignon. The Moore, Corbett and Glenray irrigation dams were built before the Glenmark scheme was closed down, and before John McCaskey had access to the scheme¹¹⁰. Derek Quigley had independent irrigation water. Derek Quigley, Tony Willey, Bruce Moore and John Corbett together founded North Canterbury Vineyards in 1982, which was managed by Bruce Moore. The company owned the vines, but the individuals owned the land and the posts and acted as a machinery syndicate, an arrangement that is still in effect. The group eventually became contract growers for Corban's in Blenheim. Allan Scott, the Corban's manager became their consultant. Their own grapes also did well, and John Corbett's won gold medals (1986, 1988 and 1989) for what was called Robard and Butler Amberley Rhine Riesling¹¹¹.

In 1989 the vines reverted to the respective landowners. The year before Mark and Michelle Rattray had purchased Derek Quigley's property. They then combined with Hutt Creek Vineyards Ltd., which farmed the Moore's grapes to form what became Waipara Springs Wines Ltd. to share processing capacity and gain economies of scale. However, the joint venture encountered conflicts of interest and did not last. The Rattray's sold their shares and built their own winery, which became Floating Mountain¹¹².

In 1990 Waipara Springs opened a vineyard restaurant. It has become very successful and helped to promote Waipara as a tourist destination. Also it has been a model for others such as at Glenmark and Pegasus Bay. Subsequently, there has been a second wave of vineyard development including Canterbury House, the brainchild of Californian Professor of Radiology, Michael Reid, who planned for nearly 200 hectares of vines at full production. However, they may be constrained by a shortage of water for irrigation¹¹³.

Waipara had been revealed to have so much potential that it was where Danny Schuster chose to establish his own Omihi Hills vineyard, which he began to plant up in 1986.¹¹⁴ He wanted a specific Pinot Noir vineyard and had set out to find a suitable site. The vineyard is to the east of the main highway. It has an elevated sloping site and is well protected from both cool southerly and easterly winds. As a locality Waipara is regularly one of the warmest spots in New Zealand. The soils are moderately heavy clay loams, rich in ironstone and chalk, which is said to have similarities to soils in Burgundy.¹¹⁵

Danny's drive to produce special Pinot Noirs has been realised by the winemakers who have followed him in the vineyards where the early Canterbury Pinot Noirs were planted, often with his help. For example, Grant Whelan, who had trained at Lincoln, bought Graeme Steans' Kaituna Pinot Noir grapes from 1991 while he was working for Rossendale Wines at Lansdowne Valley, Tai Tapu. They were made into a gold medal award winning wine in 1993. Then he and his wife bought Kaituna Valley vineyard from the Steans in 1997 and have since won further gold medals for what is now called Kaituna Valley Pinot Noir. The 1998 Kaituna Valley Pinot Noir was rated top New Zealand Pinot Noir in *Cuisine's* Annual Wine Tasting 2000¹¹⁶.

Grant Whelan would be one good example of the quality of some of the students who have been trained in the education programmes introduced under David Jackson's tutelage at Lincoln. Grant took the post-graduate diploma, and then for a short period was a Tutor, before commencing his own successful winemaking career.

2.8 Educating viticulturalists and winemakers at Lincoln

After the short courses, seminars and workshops were wound down in the early 1980s, the only provision for training at Lincoln was a range of 'Special Topic' subjects which could be taken as part of the final year of the four year Bachelor of Horticultural Science degree or as part of a one year post-graduate Diploma in Horticultural Science. Eventually, a full one-year Postgraduate Diploma in Horticultural Science course was established in 1989 with dedicated viticultural, wine science and management/marketing subjects. The course was limited to just 16 places initially due to limited laboratory space. The course was heavily over-subscribed, with 15 New Zealand students and one Australian being selected for the first year. Also, there were four students enrolled for the two year Masters in Applied Science specialising in viticulture or oenology. Experts from all over New Zealand were recruited to help with the teaching and a Visiting Professor Singleton from the University of California's Department of Wine Science, helped with some guest lectures.¹¹⁷

It took another nine years before the post-graduate programme was extended to the undergraduate level with the three-year Bachelor of Viticulture and Oenology degree which came into operation in 1998. The new degree was expected to gain from Lincoln's specialisation and expertise in cool-climate viticulture. Graduates were hoped to be employable in both New Zealand and internationally. Those who had postgraduate diplomas were employed all over the world by then. A world map of the locations of all traceable students showed how widespread

around the world they were - being located in California, Oregon, British Columbia, as well as various European wine regions.

Associated with the development of full-time courses at Lincoln was a renewed interest in short courses. From 1993 a series of annual spring schools was developed. Initially these were held over a weekend in September, then from 1999 in July. These were to provide a chance for local grape growers and winemakers to catch up with the latest research and technological developments in the fields of viticulture and oenology. These occasions also provided a chance for students to come into contact with a much wider range of presenters from the real world than they would usually get in normal lectures. Moreover, they gave a chance for post-graduates to present their own research results, to a public audience perhaps for the first time. Attendances suggest these aims have all been fulfilled.

Staffing at Lincoln University

Until 1991 the teaching of the viticultural and oenology subjects, and the necessary pre-requisites, were handled by the original team of Jackson and Steans, with other University staff drafted in where their skills could be gainfully used. For example, Rob Sherlock taught much of the required chemistry and Maurice Barnes the associated plant biochemistry. With the development of full-time courses more assistance was required. David Jackson retired from full time teaching in 1993 and then more completely with an official farewell in 1999. However, he had continued on at Lincoln on a two day a week basis to finish writing a fruit book and a revised grape book. Then from 1999-2000 he was the Establishment Director of the Centre for Viticulture and Oenology. At the end of 2000 he says he retired for the last time!

In 1989 the Postgraduate Diplomas in Viticulture and Oenology were commenced, but only in 1991 was the first academic oenologist appointed - Dr David Heatherbell. Then in 1992 Dr Mike Trought from the Marlborough Research Centre was added to supplement the viticultural side. A further lecturer, Dr Glen Creasy was added in 1998 and a part-time lecturer - David Blomfield in 2000. On the more technical side Graeme Steans moved from being a Senior Technical Officer in 1998 to become a Senior Tutor. Leo P Vanhannen had been recruited in 1994 to supplement with technical winemaking assistance.

Staffing for the new millennium is still in question as finding a replacement for David Jackson is not proving easy, especially with the weakening of the New Zealand exchange rate. Mike Trought also resigned at the end of 2000 to become a Senior Viticultural Manager in Blenheim for Villa Maria Estate. As Villa Maria is pleased to state in its advertising, it is New Zealand's most 'awarded' winery, that is, it has received most wine awards.

2.9 Celebrations and Competitions

Celebrations, competitions, awards and prizes have been used to promote the cause of grape growing and winemaking in Canterbury on many occasions.

Major celebrations took place in 1993, twenty years after the first plantings of grapes at Lincoln. At the University's Graduation Ceremony in April 1993 David Jackson was awarded the University's Bledisloe Medal. The Medal is awarded to former students who have made a significant contribution to New Zealand agriculture or advanced the country's interests, and is chosen by their peers in the *Alumni Association*.

Bledisloe Citation 1993

Dr David Ian Jackson

In 1930, the Governor General, Viscount Bledisloe, visited what was then known as Canterbury Agricultural College, Lincoln and presented a medal which was to be awarded to a former student who has made a significant contribution to New Zealand agriculture, or advanced the country's interests. Since then, Lincoln alumni from many fields of endeavour including academia, public administration, agriculture and horticulture, business and the sciences have won this award.

This year's recipient is Dr David Ian Jackson, Reader in Horticulture at this University.

David Jackson was born in Lancashire, England and was educated at King Edward VII School, Lytham. He came to New Zealand in 1952, completed his secondary schooling at Nelson College and in 1954 began studies for a degree in horticulture at Lincoln College, graduating in 1958. Two years later, he graduated with a Masters degree, his thesis focusing on oxalis and its control.

He joined the Fruit Research Division of DSIR where he worked on storage problems in apples, and was responsible for showing the role calcium played in bitter pit in New Zealand apples. Between 1961 and 1964 he studied for a PhD in fruit science at the Waite Institute, University of Adelaide. After further work with the DSIR in Auckland, he joined the staff at Lincoln College where he was able to extend his horticultural research interests to include flower initiation in fruit crops, apple production systems and grape and wine production. At that time, most commercial apples were produced on large trees in a semi-intensive system using ladders. Dr Jackson's early research effort, which was carried out in collaboration with Gilbert Wells, was devoted to the development of intensive systems using smaller trees. This production system not only advanced yields but also substantially reduced pruning and harvesting costs.

In 1975 Dr Jackson was one of a small group who founded the New Zealand Tree Crops Association. However, it was in the area of grape production that Dr Jackson was to achieve eminence.

Although a small vineyard had been planted at Lincoln in the 1960s, it was not until the early seventies that serious thought was given to the role cool climate varieties might play in Canterbury.

It was fortuitous that on the staff at the time was one Danny Schuster, from Germany, who suggested that not only were many New Zealand vineyards sited in inappropriate locations, but that Canterbury could have microclimates well suited to varieties such as Riesling and other common German varieties.

Thus it was that a combination of European know-how and Lincoln enthusiasm resulted in a successful application for research money to evaluate some grape varieties at Lincoln. So, in 1973, Dr Jackson and Graeme Steans planted a small area containing twenty grape varieties.

It is important to remember that at that time, the conventional wisdom stated "no grapes south of Cook Strait", because it was widely believed that temperatures were too cold.

After three years, some of the Lincoln grapes were harvested and found to have sugar-acid levels better than expected. David Jackson and Graeme Steans made a small quantity of wine. This product showed promise and as a result, the Lincoln vineyard was extended to accommodate sixty cultivars. Danny Schuster returned to Canterbury at that time and took over the small wine-making facilities.

Watching from the wings were people interested in the commercial application of Dr Jackson's trials. Among them were the Mundy brothers of Cou tts Island.

The cyst nematode had severely affected their potato production enterprise and they were seeking alternative crops. While visiting Lincoln, looking at blackcurrant production, they noticed Lincoln's grapes and heard about our wine production. Within a few years, the St Helena vineyard was established, with cuttings of the cool climate varieties best suited to the Cou tts Island environment. St Helena, with Danny Schuster on the staff, became the first winery in New Zealand to be financed by the Rural Bank and was opened by the Prime Minister in 1981.

Other wineries were established and Canterbury wine, particularly Reisling and Pinot Noir, gained national and international recognition. Today there are over fifty vineyards and fifteen wineries in the province, employing a labour force of 250.

A key ingredient in the formula for this success was Dr Jackson's understanding of the importance of climate. He found the traditional approach to climate assessment was fundamentally flawed in the Canterbury situation - so with Dr Neil Cherry he devised a "latitude temperature index" which takes into account the longer growing season experienced in Canterbury which provides an ideal balance for vegetative growth and fruit growth in cool climate varieties.

Today the area in grapes in the South Island is 38 percent of the national total - Marlborough having an area larger than any other province.

At Lincoln, Dr Jackson played a pivotal role in establishing a postgraduate diploma course in wine science and viticulture, which began in 1989 and which this year has attracted 30 students. This course is the only one available in New Zealand.

However, Dr Jackson's work was not confined to teaching and research. Throughout his career he has made an enthusiastic contribution to the extension of research information. He has made and maintained links with producers thus ensuring a two-way flow of information and experience.

Indeed, within the last six months two weekend Lincoln seminars on grape production led by Dr Jackson, attracted over 250 people. Such courses and Dr Jackson's enthusiastic involvement are helping establish Lincoln University as the intellectual centre of wine development in New Zealand.

Commercial producers readily acknowledge they would not have had the confidence to establish their vineyards and wineries without Dr Jackson's pioneering work demonstrating what could be achieved in the South Island and his Lincoln seminars, which in the late-1970's brought together scientists, advisers and commercial producers.

A former president of the Marlborough grape growers association has noted in a letter to the University that a great deal of the success achieved in Marlborough was due to Lincoln research. For example, research findings on bud numbers and fruit set were quickly adopted by growers who in one season doubled their yields.

In 1990 Lincoln University acknowledged Dr Jackson's contribution to horticultural science with a special achievement award for excellence in research.

In 1991, Dr Jackson's research paper on Early Bunch - Stem Necrosis won the prize for the best paper in viticulture from the renowned American Society for Enology and Viticulture. Dr Jackson's work as a scientist and team leader has brought much credit to this University and considerable benefit to the wider Canterbury, South Island and New Zealand horticultural industry.

In making this award to Dr Jackson, Lincoln University is honouring not only a scientist whose work has won international recognition, but also someone who has effectively disseminated research findings to students and the industry - findings which have had a significant impact on the economy.

Lincoln University is proud to add his name to the distinguished list of Bledisloe Medallists.

Then, to celebrate twenty years of research grape growing and winemaking, a three-day "Celebration of Wine in Canterbury" was held in September 1993. Two guest speakers from overseas were invited: Dr Bryan Coombe, one of the world's top grape physiologists (David Jackson had been the first PhD student that he had supervised.); and Dr Lucie Morton from Virginia, an expert researcher and teacher on the subject of vine rootstocks¹¹⁸. Industry recognition of the celebratory symposium was shown through the attendance of John Buck, Chairman of the Wine Institute, and Philip Gregan, its chief Executive Officer.

The celebration was capped off by a great wine debate on the last afternoon. The motion was that "Canterbury Wines are Good for the Body and Soul". The debaters included winemaker Danny Schuster; wine connoisseur Don Beaven; Wine Institute executive member Ross Spence; well-known public speaker Kathryn Dalziel; television scriptwriter and lawyer Andrew Gunn, university law lecturer David Round; and winemaker Almuth Lorenz¹¹⁹.

There were a number of campus based seminar weekends during 1993 to discuss the latest research and management practices for South Island growers. The series started in February and ran through to April and was very well attended. David Jackson's summation of the weekends was: "The seminars were part of a timely assessment of where we have come from, where we're at and where we are going with grape and wine production in the South Island".¹²⁰

Another celebration was held in 1995 for the opening of a new university winery at Lincoln. The old one was cramped but had the unenviable distinction of probably being the highest winery in the world, on the seventh floor of the Burns Wing! The new winery, much closer to the experimental grape plantings, was located at ground level on the University's Farm Road. It was opened by Philip Gregan on behalf of the Wine Institute, during the third Spring School in Grapes and Wine. He spoke of the importance to the industry of training and research, which would determine the competitiveness of the industry in the future. He also noted that in Canterbury "...it is interesting that there was a research and training facility - Lincoln - in place before an industry, and that's fairly unique."¹²¹ David Jackson also spoke of his colleagues in the important developments at Lincoln since 1973 - Graeme Steans, an outstanding grape grower in his own right, and Danny Schuster who had been involved from the beginning and was grapegrower, winemaker, author, lecturer and "...firm believer in Canterbury's potential for producing great wines"¹²².

Competitions are much debated amongst winemakers. Some try very hard to win them and others do not bother to compete believing that the quality of their product is all they need to sell it. For Canterbury the value of wine competitions has been in the relatively free publicity and marketing they give. The 'independent' assessment of the product, although the idiosyncrasies of wine writers and critics are considerable, is seen as being relatively objective. The first medals won for Canterbury by Hunters and St Helena played a major role in dispelling some of the myths about what could and could not be grown in Canterbury. Continued success, as Grant Whelan has had with the grapes originally planted by Graeme Steans, has continued to illustrate the wisdom of the Jackson/Schuster partnership, particularly where growing Pinot Noir in Canterbury is concerned¹²³, and to advertise again the merits of good *terroir* in Canterbury.

2.10 Research in the 1990s

When David Heatherbell reported on the state of wine research at Lincoln to the 1997 Grape and Wine Spring School he identified its two main goals:

- "To improve wine quality and stability by the application of innovative processing technologies and viticultural practises.
- To develop a knowledge of the chemistry/biochemistry and sensory properties of wine quality parameters including colour, aroma, flavour, texture; and to utilise this knowledge to further wine quality."

Research at that time could be grouped under four headings focussing on health related wine styles, Pinot Noir wine quality; phenolics in grapes and wine; and cooperative efforts with viticultural trials to analyse the effects of changing vineyard practices on grape composition and wine quality.

A new Centre for Viticulture and Oenology was formed in March 1999 to help bring the areas of Viticulture and Oenology closer together, as they had become separated at Lincoln as a result of University restructuring¹²⁴, with Viticulture among the Plant Sciences and Oenology with the Animal and Food Sciences. The new Centre was meant to become:

"Nationally and internationally recognised as a leading provider of teaching and research in viticulture and oenology"¹²⁵.

One other strand of research which had been updated in the 1990s relates to the picture built up by marketing lecturers over the years of New Zealanders' drinking patterns and how they have changed. The first study was carried out by Rod Brodie in 1977, then repeated by Charlie Lamb in the 1980s, and further updated for the 1990s. According to Charlie Lamb:

“In the 1990s, about 70 percent of adults drink wine, much the same as in the past. But we are drinking it more often, in many settings....New Zealanders are becoming very sophisticated wine drinkers. We've been through the same evolution that occurred in the Australian wine market, but in a much shorter time. We've all done a lot of learning”¹²⁶.

2.11 Planting developments of the 1990s

Plantings in Canterbury over the last ten years have seen a concentration of activity in the Waipara area, but there have been a few other notable developments. At Waipara the major change has been the investment of substantial American capital at Canterbury House. On the Plains Danny Schuster chose to extend his vineyard area with a mixed vineyard of Chardonnay and Pinot Noir at Rakaia on gravelly soils to complement his Waipara production. The first South Canterbury Winery of note, Opihi vineyard, Pleasant Point, was established in the early 1990s.

After the early scares about weed spraying and grapes of the 1970s there were few developments on Banks Peninsula until the late 1980s. Then the rural downturn, experienced from 1984, and changed public attitudes, made vineyards acceptable at last. The area still had the same climatic, aspect and slope advantages, which were highlighted at the beginning of this account. Eventually a new vineyard was planted at French Farm in 1989, with all modern viticultural and winemaking conveniences and a winemaker enthusiastic about its possibilities. Unfortunately, its owners had overcapitalised it and then could not get an adequate return on their investment. Conversion to a restaurant occurred and the winemaking took a lower priority to the flourishing tourist industry of the Akaroa area¹²⁷. Subsequently, other plantings have been made around Akaroa Harbour and have taken advantage of what the original French settlers found - that it was an excellent place to grow grapes and make wine, which today can also benefit from its tourist appeal. However, large-scale developments are unlikely on the Peninsula as the sites do not lend themselves to low labour inputs, and thus are relatively unattractive to corporate investors.

On the Plains, where such labour saving systems could be used, corporate investments are probably unwise. The uncertainties of the climate make ensuring adequate income flows very difficult on the Plains compared to the situation in Marlborough

By 2001 the grape producing area in Canterbury had risen to 466 hectares and was projected to reach 614 hectares by 2003. This represents only approximately 4% of the New Zealand total. Nearly one third of the Canterbury area planted was in Pinot Noir grapes and that proportion was projected to increase. Just under a quarter was in Chardonnay and about one fifth in Riesling¹²⁸.

PART III

THE NEW MILLENNIUM

3.1 Where is Canterbury wine at the end of the second millennium?

Since the modern rejuvenation of wine production in Canterbury public attitudes to wine have changed substantially. From the 'Prohibition' era at the beginning of the twentieth century, when New Zealand wine was very poorly appreciated, it has become an important social lubricant of hospitality, whether familial, local, or international through tourism. Consumers have more choice than ever before. Their purchasing power determines the success of the industry¹²⁹.

Increased competition

Canterbury wine is only one small part of an increasingly competitive world wine market. Already there is a flood of New World wines of quality onto the world stage. Even the local market will not be exempt from this increasing competition which will necessitate winemakers "... to further improve their quality, value, marketing effort and overall competitiveness"¹³⁰.

Following an initiative from Dale Sherwood of Sherwood Estate Wines, five Canterbury wine producers have come together to form a cooperative marketing arm called *Cellars of Canterbury* (Canterbury Wineries Ltd.). Their objectives are to compete more effectively internationally and domestically, and "...to boost the region's profile as a leading wine area"¹³¹ They successfully market under this umbrella organisation and label some 50 different wines, in addition to those sold by the individual wineries. Within six months of setting up the new network in 1997 they had achieved \$1.7 million in export sales. The participating wineries are St Helena Wine Estate, Giesens Wine Estate, Sherwood Estate Wines, Morworth Estate, which had replaced Sandihurst Wines, and Rossendale Wines. One phone call can now order all their fine Canterbury wines¹³². To cope with the demand for Canterbury labelled wines, both St Helena and Giesens have acquired substantial areas of vineyard in Blenheim to secure their supplies of grapes¹³³.

Changing consumer tastes

In a 1999 study of wine drinkers in New Zealand¹³⁴, local wines were perceived as very good or excellent. International visitors compared them very favourably with other countries' wines, often highlighting distinctive local characteristics, particularly for New Zealand white wines. New Zealanders preferred whites and were drinking more Chardonnay, whereas Internationals preferred reds, favouring Cabernet Merlots and Pinot Noirs. The most important motivations for buying wines focussed on taste, contribution to the dining experience, and wine as a social drink for celebrations. Wine was also increasingly seen as a being good in moderation for health.

Major influences on purchase decisions were first, friends and family, then medal winners, price/specials, promotions and well-known labels. Information sources were also friends and family, liquor outlets and media columns and articles. Nearly two thirds of consumers felt their tastes had, or were, changing. More now preferred dry wines and more reds. Consumers believed they knew more about wine; believed their tastes had matured; and could distinguish flavours better. More wine was being drunk and more quality wine¹³⁵.

If the period from 1933-1967 was when consumers preferred sweeter dessert wines, the 1970s were the era of bulk cask/table wine. The 1980s saw consumer demands arise for better quality,

more expensive varietal wines. The future is considered to be the opportunity for the “fighting varietal” to be the premium wine. However, consumer trends do change and the research¹³⁶ highlights the demise of Muller Thurgau, Semillon, and Gewürtztraminer as warnings to unthinking planters of fashionable grape vines.

Wine achievements

From the initial medals won by St Helena and Hunters in 1982, Canterbury wine has come of age. Bob Campbell (Master of Wine) recently described Canterbury in terms of wine production as “Potential, Potential, Potential”. His opinion deserves explanation:

“Whenever I visit Canterbury I discover new wines that, like small gold nuggets, suggest there is an enormous amount of great wine not too far away. St Helena 1982 Pinot Noir gave the nation’s winemakers confidence to invest in the variety. Giesen Riesling helped to convince a few Canterbury winemakers, and me, that the variety has a future in the region. Waipara West 1995 Pinot Noir, Mountford 1997 Pinot Noir and Pegasus Bay 1998 Pinot Noir have confirmed my faith in the region’s ability to make great Pinot Noir. Pegasus Bay and Daniel Schuster have shown that Canterbury can also make top Chardonnay. Canterbury House earned a Sauvignon Blanc trophy for its 1998 vintage. Banks Peninsula vineyard Kaituna Valley turned out top Pinot Noir over several vintages, thanks to a combination of a great site, mature vines and sensitive winemaking...Canterbury gets my vote as the wine region with the most potential¹³⁷.”

That potential was demonstrated first by the early French settlers at Akaroa. It was confirmed by Romeo Bragato. Then it was rediscovered and confirmed experimentally by David Jackson, Danny Schuster and Graeme Steans. Now in the third millennium it is the task of the province’s winemakers to further confirm and take advantage of that potential and bring it to reality. The considerable economic benefits that this would bring Canterbury have been demonstrated by the impact the wine industry has made in Marlborough¹³⁸, and in how it has revived the economy of Waipara. Who would have thought of going to Waipara for a day out twenty years ago? Now it is a pleasant destination, where you can get good food and wine to sustain yourself while you purchase a few bottles! That hope was boosted by a Canterbury wine - Mark Rattray’s Noble Riesling 2000, produced for Canterbury House - taking champion wine at the 2001 Air New Zealand Wine Awards. The award is a considerable achievement for a boutique winery, given that it is the larger wine companies, such as Montana and Corbans, that have most often won the supreme award.

KEY CANTERBURY WINE EVENTS

- 1840 French plant first grapevines at Akaroa.
- 1895 Romeo Bragato visits Akaroa.
- 1973 Dr David Jackson meets Danny Schuster at Lincoln College.
First wine seminar held.
Experimental vineyard planted.
- 1978 First commercial vineyard established: St Helena on Coult's Island.
- 1981 First Rural Bank funded winery opened for St Helena by Prime Minister, Robert Muldoon.
First Waipara vineyard planted, Glenmark Wines.
- 1983 St Helena Pinot Noir 1982 wins Gold Medal in National Wine Competition.
- 1989 First New Zealand Wine Course, a postgraduate Diploma in Horticultural Science, with Viticultural and Oenology papers, established at Lincoln College.
- 1991 Giesen Wine Estate wins first International Gold Medal for its Riesling Dry Reserve 1989 at London's International Wine and Spirit Competition.
- 1993 Dr David Jackson awarded Lincoln University's Bledisloe Medal largely for his contribution to the Canterbury and New Zealand Wine Industries.
- 1998 Bachelor of Viticulture and Oenology degree begins at Lincoln University.
- 2000 Kaituna Valley Pinot Noir 1999 adjudged top New Zealand Pinot Noir in *Cuisine's* Annual Red Wine Tasting.
- 2001 Mark Rattray's Noble Riesling 2000, produced for Canterbury House takes the champion wine of show award at the 2001 Air New Zealand Wine Awards.

ACKNOWLEDGEMENTS

The historical review of the first Canterbury plantings of grape vines owes much to the assistance of Peter Tremewan, whose scholarly book *French Akaroa* so enthralled me that I decided to ask him whether he had come across any further references to grape vines in his extensive searches of the archives here in New Zealand and in France. As a French Lecturer at the University of Canterbury he was also in an excellent position to give me appropriate translations of those few passages he did find. David Jackson has kept me on the straight and narrow as far as viticulture and oenology are concerned. I am very grateful for their assistance.

More recent history has depended upon the reminiscences of many of the people directly involved. One of the reasons for the completion of this history was to record these memories before the sources were no longer available. Hence, this Research Report has full endnotes indicating from where the original material reported came. My grateful thanks are extended to all who have helped with this research, however trivial their involvement may have appeared to be. Their specific contributions are acknowledged below.

ENDNOTES

¹ Quoted by Michael Cooper (1989) *The Wines and Vineyards of New Zealand*. Hodder and Stoughton: Auckland, p. 13.

² *Ibid.*, p. 14.

³ Tremewan, Peter (1990) *French Akaroa - An Attempt to Colonise Southern New Zealand*. University of Canterbury Press (with assistance from the Historical Branch, Department of Internal Affairs), p. 46.

⁴ p. 21, *ibid.*

⁵ Zeldin, Theodore (1973) *France 1848 - 1945: Volume 1 Ambition, Love and Politics*. The Oxford Modern Histories of Europe, O.U.P.:Oxford, p. 170; Tremewan, *ibid.*, pp. 46-49.

⁶ Zeldin, *ibid.*, p. 163; and *Volume 2: Intellect, Taste and Anxiety* (1977), p. 756.

⁷ *Ibid.*

⁸ Archives Decazes, La Grave, liasse 371.

⁹ Personal communication from Peter Tremewan, 31 May 1999, after he had searched his notes for the book *French Akaroa: An Attempt to Colonise Southern New Zealand* (1990).

¹⁰ Lavaud to Navy Minister, 30 November 1840. *Archives Nationales*, BB4 1011.

¹¹ Archives Decazes, La Grave. Letter from Belligny to Decazes, 1 December 1840

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- 12 Documents fournis à M. Le Colonel Godfrey, commissaire de S. M. la reine d'Angleterre pour la vérification des titres, à l'appui de la réclamation de la Compagnie Nanto-Bordelaise. Archives Decazes, La Grave, liasse 370, 1843.
- 13 Tremewan, *ibid.*, p. 51.
- 14 Michael Murphy, Entry M60, pp. 303-4, *The Dictionary of New Zealand Biography - Volume One 1769-1869*, Bridget Williams Books Ltd. and Department of Internal Affairs, 1993: Wellington.
- 15 Robinson to Michael Murphy, 8 November 1840. National Archives, Wellington, IA 1 41/366.
- 16 Hight, J. and Straubel, C. R. (1950) *A History of Canterbury; Volume I to 1854*, Whitcombe and Tombs Ltd., Christchurch.
- 17 *The Lyttelton Times*, 13 May 1857. Reprinted by Kiwi Publishing, Christchurch.
- 18 Tremewan frontispiece. *La presqu'île* is a French translation of 'the peninsula'.
- 19 Diary of Robert Dawber (48 years), accompanied by his son, by his first wife - James Bruce Dawber (16 years) November 1st. 1868 - December 14th, 1869. Held in Akaroa Museum Library. Entry for March 8.
- 20 *Ibid.*, entry for 15 April.
- 21 *Ibid.*, entry for 21 June.
- 22 Diary of Mary Anne Hastings, "Homebrook", Southbridge, Canterbury.
- 23 *The Press*, 19 February 1872.
- 24 Moore, Kevyn D. "Romeo Alessandro Bragato 1814-1913 - 'The significance of his work to New Zealand'. An address presented at the *Regia Scuola di Viticoltura ed Enologia*, Conegliano, Italy. 18 May 2001.
- 25 *Op. Cit.*, p. 14.
- 26 Bragato, *ibid.*, p. 6.
- 27 Cooper, *ibid.*, p.16.
- 28 Bragato, *ibid.*
- 29 *Ibid.*
- 30 Hay, James (1915) *Reminiscences of Earliest Canterbury (Principally Banks Peninsula) and Its Settlers*, The Christchurch Press Co. Ltd., Christchurch.
- 31 W. Scotter (1965) *A History of Canterbury, Volume III 1876-1950*. Christchurch: Canterbury Centennial Historical and Literary Committee, and Whitcombe and Tombs Ltd., pp. 126-130 and 199.

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- 32 Eldred-Grigg, Stevan (1984) *Pleasures of the Flesh*. A H and A W Reed: Wellington.
- 33 Cooper, Michael (1988) *The Wines and Vineyards of New Zealand*. Auckland: Hodder and Stoughton, pp. 16-17.
- 34 Ward, Gerald (1995) *Early Fruitgrowing in Canterbury New Zealand*. The Spotted Shag Press: Christchurch. p.90.
- 35 Macdonald Dictionary of Biographies, Canterbury Museum, Christchurch, New Zealand. Entry M.679.
- 36 Arthur, Garry (1973) *The Press*, Christchurch, 14 April. Also Ward (1980), *ibid*.
- 37 *Ibidem*.
- 38 Bob Crowder (pers. com.) has compared the mean annual accumulated heat units for Lincoln College for the periods 1939-1949 = 790 and 1965-1975 = 973, a quite significant difference in a marginal climatic situation. To reinforce the point he then quotes the heat units for 1975-6 = 669 and 1976-7 = 659. Cool years could well have had the consequences Meyer described.
- 39 Sale of Liquor Act 1960. *New Zealand Yearbook 1977*. Government Printer: Wellington, pp.848-9; Thorpy, Frank (1983) *Wine in New Zealand*. Penguin Books (Edition): Auckland. p. 27.
- 40 Arthur, *ibid*.
- 41 Hicks, G J (1973) "Grape varieties suitable for Canterbury", *The City Beautiful*, Vol. 54, no.1. February.
- 42 Thorpy, *ibid*. p.20.
- 43 Bragato, Romeo (1895) *Report on the Prospects of Viticulture in New Zealand together with Instructions for Planting and Pruning*. New Zealand Department of Agriculture. Wellington: Government Printer.
- 44 Personal observations of Graham Thiele, David Jackson, Graeme Steans and Caroline Duncan, collected and recorded by the author during 2000. Early developments of grape growing and winemaking at Lincoln are not well documented. Consequently this account depends heavily on the oral testimony of many who were directly involved and are still alive. Often their accounts do not agree specifically. As a result a policy of triangulation has been used to establish the fundamental details of this period. Where possible this has involved cross-checking oral evidence with the documents available. Where only oral comments are available the following strategy has been used: A single opinion has been regarded as of no great significance; two opinions agreeing has suggested a possibility; while three has been accepted as evidence that what has been described occurred.
- 45 Dr David Jackson interviews, August 2000.

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- 46 Bledisloe Citation 1993 - Dr David Ian Jackson. *Lincoln University Alumni News*, June 1993, pp. 8-9..
- 47 Jackson, D I (1974) *Temperate and Sub-Tropical Fruit Production*. Bulletin 15, Department of Horticulture, Lincoln College, pp. 4-5. Data come from FAO sources.
- 48 The Seppelt family was descended from an immigrant to Australia from Silesia, only some 300 kilometres from Prague.
- 49 Mulcock, A P. (1973) Application for a Grant for Research into Cider Manufacture. Microbiology Department, Lincoln College. Mulcock Personal Papers.
- 50 Bragato, *ibid.*, p. 6.
- 51 Arthur, *ibid.*
- 52 Memorandum from D H Crabb, Information Officer, to Sir Malcolm Burns, Principal Lincoln College, 18 April 1973. Mulcock papers.
- 53 Mulcock, Personal Papers. Copy of invitation.
- 54 *Lincoln University News*. No. 6, October 1991 p.1.
- 55 Mulcock, A.P. Interview, 2 August 2000..
- 56 *Lincoln University News*, *ibid.*
- 57 Cooper (1988), *ibid.*, p. 230.
- 58 Graeme Steans, formerly Senior Technical Officer at Lincoln University, now Senior Tutor, was associated with Lincoln developments from the beginning. His enthusiasm and his skill as a winemaker, especially in micro-vinification, has been an important ingredient in the success of Lincoln University's grapes and wine.
- 59 Te Kauwhata was the original Government Station specialising in grape and wine production. Its first grapes were planted in 1897. It was established as a viticultural research station while Bragato was Government Viticulturist from 1902. He required the original plantings to be grubbed and replaced with phylloxera resistant American rootstocks. Vines were imported from all over Europe and evaluated for New Zealand conditions. They were used for replanting many phylloxera ravaged vineyards. In the early 1970s only the North Island was believed to be suitable for growing grapes.
- 60 Hicks, (1973) *op. cit.*
- 61 A degree day is a measure used in assessing the growth potential of a district through the heat accumulated during a growing season. The method of calculation is discussed in Jackson and Schuster (1997) *The Production of Grapes and Wines in Cool Climates*, p.5. One of David Jackson's most important, but unheralded, scientific papers relates to an elaboration of this index which has been much debated in scientific circles. See: DI Jackson and NJ Cherry (1988) "Prediction of a District's Grape-Ripening Capacity Using a Latitude-Temperature Index (LTI)", in *American*

Journal of Enology and Viticulture, 39, 1, 19-26.

62 Crowder, pers.com., but see note 5 above.

63 *Ibid.*, p. 4.

64 *Ibid.*, p.5.

65 “A specialised microvinification unit for the production of small volumes of wine was set up (at Lincoln) in time for the 1978 vintage using methods of standardised wine production similar to those successfully used in other research centres (namely the Stellenbosch Research Institute in South Africa; the INRA Station in Colmar, France; the Geilweilerhof and Geisenheim Institutes in Germany; and the Te Kauwhata Research Station in Waikato). The main principle involved being the need to produce small volumes of wine which retain the natural balance and varietal character of the harvested fruit. Standardised conditions for fermentation and wine stabilisation before early bottling are essential. This involves the selection of a suitable yeast, the use of inert containers and specialised handling to prevent oxidation, excessive contact with lees and bacterial spoilage. Each year, the wines and grape must are carefully monitored by chemical analysis throughout the process and data recorded.” (Schuster, Danny and Steans, Graeme (1983/4) “Evaluation of grape cultivars reaches sensory stage”, *Southern Horticulture Grapegrower and Winemaker*, p. 67.)

66 Jackson, D I (1984) *The Grape Experiments at Lincoln College*. Bulletin no. 36, Department of Horticulture, Landscape and Parks, Lincoln College.

67 A chemical bird deterrent now prohibited.

68 *The grape experiments at Lincoln College and preliminary results to 1979*. Typescript, no author, Department of Horticulture, Landscape and Parks, Lincoln College.

69 *The Press*, Christchurch. 8 November 1975.

70 *Ibid.*

71 Flyer for Course, Mulcock Personal Papers.

72 Montana began to buy land in Blenheim in 1973. Propagation and planting were disrupted by drought in 1974 and plant losses were replaced with virus-free, well-rooted vines. Montana Wines Ltd. (1979) *The Montana Story*. Auckland, p.8.

73 Unfortunately the marketing papers presented during the courses are not included. The original data collected by the College’s Agricultural Economics Research Unit is to be found in their Research Report No. 79 *Wine: a consumer survey of Christchurch households* by R J Brodie and M J Mellon, September 1977.

74 Gestetnered typescript, Department of Horticulture, Lincoln College.

75 The title of an article appearing in *Lincoln University News*, No. 6, October 1991: “Odd ball” idea now a winning industry”.

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- 76 Grant, Liz (2000) *Weekends for wine lovers in the South Island*. New Holland Publishing (NZ) Ltd.: Auckland, p.91.
- 77 *Ibid.*, 8 November 1975, p.1.
- 78 Cooper, Michael (1993) *The Wines and Vineyards of New Zealand*. Hodder and Stoughton: Auckland, p. 170; George, Rosemary (1996) *The wines of New Zealand*. Faber and Faber: London, p.288..
- 79 Jackson, D I (1977) “Grapes and Banks Peninsula”, *The Press*, 30 August. A vineyard is defined in the Agricultural Chemical Regulations 1968 as being 1 acre or 0.4 hectares of grapes. Many councils clearly misunderstood these regulations and their effects and made vineyards conditional uses of land under the Town and Country Planning Acts. Therefore vineyards could not be developed without permission from the Council. This issue is fully explored in Marris, J (1978) “Problems with 2,4,5-T, Grapes and Local Authorities”, *Bulletin 22A Papers in Viticulture*, Department of Horticulture, Landscape and Parks, Lincoln College.
- 80 *Ibid.*; also see Norris, Brendon P. (1990) *The development of viticulture and winemaking in Marlborough*. MA thesis (Geography), University of Canterbury.
- 81 Paul Mulcock, personal communication.
- 82 *The Press*, 29 November 1975; *The Akaroa Mail*: 5 March 1974; 5 December 1975; and 6 February 1976.
- 83 Graeme Steans, pers. com.
- 84 Cooper, *ibid.*, pp.157-8.
- 85 *Ibid.*, pp. 157-8 and 159.
- 86 The Vine Uprooting (the ‘vine pull’) was instituted by the Labour Government in 1985 to reduce the productive capacity of the New Zealand wine industry. It was suffering from over-production and static consumption following the Wine Industry Study and Development plan in 1978. Many smaller producers were being forced out of business by extensive price-cutting by the largest companies. (Cooper, *op cit.*, pp. 48-51; Mabbett (1998) cited in Fairweather, John, Campbell, Hugh and Manhire, ____ (1999) *The Greening of the New Zealand Wine Industry*. Studies in Rural Sustainability Research Report No.7, Department of Anthropology, University of Otago.)
- 87 Lincoln’s Experimental vineyard was the source of a number of cuttings supplied to prospective grape growers. Graeme Steans initial plantings were sourced from the experiments. He then supplied cuttings to growers around Canterbury, Otago and further afield. Among his customers were award-winning wineries, Ralph Mills and Black Ridge of Central Otago. Other cuttings were supplied about 1977 direct from Lincoln by Roy Edwards (pers. com., 24 April 2001) and Merv Spurway working at weekends for David Jackson. If each cutting was sold for 10c, 5c was for David’s research funds and 5c for the labour.

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- 88 The name St Helena was derived from the island of St Helena in the South Atlantic, so named by the Portuguese who discovered it upon St Helen's day, 21st May. Source: "A briefe description of the Iland Sain Helena", the 94. Chapter, van Linschoten, John Huighen (1584) *His Discours of Voyages into ye Easte and West Indies*. Wolfe: London. An early French settler at Akaroa is said to have taken cuttings from Akaroa's St Helena Willow trees and replanted them on what became known later as Coutt's Island. It was only called Coutts Island subsequently. Donald Coutts, a flour miller had purchased it from the original French settler. At one stage there was a St Helena Elementary School (Source: Danny Schuster, pers. com., 5 April 2001, about his memories of deciding the original title for the Mundy's wine). The French connection for Canterbury wine arises again! Hawkins says Coutts Island appeared to be known locally for a short period as St Helena. (Donald N Hawkins (1957) *Beyond the Waimakariri: a regional history*. Whitcombe and Tombs: Christchurch. Appendix C, p. 422.)
- 89 "'Odd ball' idea now a winning industry", *Lincoln University News*, No. 6, October 1991.
- 90 Graeme Steans and Danny Schuster, pers. com. See also Homes, James; "Meeting the taste of the sophisticated drinker", 1983/84 *Southern Horticulture Grapegrower and Winemaker*, pp.65-66; and Campbell, Bob (2000) "Understandable Pinot Envy", *Cuisine*, No. 82, September, pp. 154-5. Also Danny Schuster's letter to the Editor which appears in the next issue, No. 83 pp. 25-6. Graeme Steans' own Invoice book shows that he sold one ton of grapes to the Mundys, which suggests both Whelan and Schuster are incorrect. The invoice, No 7, is dated 12 November 1982.
- 91 Cooper (1993), *op. cit.*, p.169; George, Rosemary (1996) *The Wines of New Zealand*. Faber and Faber Ltd.: London, pp. 281 and 287; Grant, Liz (2000) *Weekends for wine lovers in the South Island*. New Holland Publishers (NZ) Ltd.:Auckland, pp. 100-102. Wine tourism in New Zealand is addressed specifically by C. Michael Hall *et al*. In "Wine tourism in New Zealand", pp.150-174 in C. Michael Hall, Liz Sharples, Brock Cambourne and Niki Macionis (2000) *Wine Tourism around the World: Development, management and markets*. Butterworth Heineman: Oxford. A recent example of the growth of wine tourism is shown by the web pages for Canterbury *Vin de Pays* Wine Tours at <http://www.canterburyvindepays.co.nz>
- 92 *Giesen New Zealand*. Publicity brochure supplied at the Burnham winery, April 2001.
- 93 Peate, Helen (1998) "The last of the summer wine", *The Press*, 18 June.
- 94 Cooper (1993), p.164.
- 95 John McCaskey, personal communication, 9 April 2001. John farmed a 400-hectare farm resulting from the breakup of the Glenmark Estate in 1917. It had been in his family since 1936.
- 96 Letter from Bob Crowder, Lecturer in Horticulture, Lincoln College, to N. G. Robertson, Assistant Director Climatology, New Zealand Meteorological Service, Wellington.

⁹⁷ Walter Charles Wisdom (1902-1971) and his wife, Winifred Irene (1909-1960) lie in Glenmark Cemetery surrounded by the grapes Walter thought Waipara would produce so well. An Irishman, he was educated at Trinity College, Dublin, where he studied Theology and Geology (B.A. 1932, M.A. 1935) and was ordained priest in the Church of Ireland in 1934. After initial service in Belfast, he became a Church Missionary Society missionary in the diocese of Fukien, China (1934-1939). Ill health prevented continuing missionary service and in 1939 he left China, but could not return to Britain because of the outbreak of war.

The couple ended up in New Zealand, with Walter being Vicar successively at Rakaia (1939-1942), Temuka (1942-1946), Sumner (1946-1951 and finally Glenmark (1951-1962). In 1959 Walter was appointed canon of Christ Church cathedral. Although Glenmark was Canon Wisdom's last parish, he had always been seen as a progressive – a holy man with adventurous ideas. For example, he had the first television in the Waipara district and he kept bees. With his geological background, although not particularly scientific, he always believed Waipara was an ideal site for grapes. As a priest he was not well off, but his friend Robert Forbes was. Between them in the late 1950s, they chose what they believed was a good site close to the Weka Creek and purchased the vines. However, the final planting did not proceed. By this stage Canon Wisdom may well have been distracted by the health of his wife who was dying of cancer. Although the project did not succeed, the more recent development of grapes and wine around Waipara, Glenmark Church and Glenmark Cemetery testify to the foresight Walter Wisdom exhibited. The siting of the Glenmark Wine and Food Festival in the grounds of Glenmark Church is an unintentional tribute to this husbandman of the Lord's vineyard.

(References: Sally Forbes, Eldred Wisdom and Michael Blain)

⁹⁸ Sally Forbes, pers. com., 18 April 2001.

⁹⁹ Sally Forbes, pers. com., 13 April 2001. It has not been possible to identify these White Russians.

¹⁰⁰ The Glenmark Irrigation Scheme and its effects on farmers is discussed in Hornay, Fileomeno de Jesus (1996) *A Case Study of the Effect of a Key Innovation on Farmers Adoption Behaviour*. M.Agr.Sc. Thesis, Lincoln University.

¹⁰¹ Heiler, T D , Plank, R D, and Daly, G T (1977) *Glenmark Irrigation Scheme- Final Design Volume Two - Hydrologic, Engineering and Economic Design*. New Zealand Agricultural Engineering Institute, Lincoln College, Canterbury, New Zealand. Appendix J - "On-Farm Economics", pp.249-251.

¹⁰² *Glenmark Irrigation Scheme: Final Design Report - Volume 1: Summary*, p.48.

¹⁰³ *Ibid.*, p.49. The experiments referred to were the work of Bob Crowder, Senior Lecturer in Vegetable Production, Department of Horticulture, Landscape and Parks. According to John McCaskey he had been looking for a mini-California. He had prepared a detailed analysis of the Canterbury climate and found Waipara to be significantly warmer than Lincoln. Meteorological data for Waipara had been collected in a Stevenson screen by the Forest Service for more than twenty years. Bob's model was for mechanised tomato production similar to the work of the Californian scientist, Sims. Waipara farmers were not keen on a 'push-hoe' model

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- (McCaskey).
- 104 R A Crowder (1976) “An assessment of climatic risks for machine-harvested, process tomato production in a marginal climatic region”, in New Zealand Meteorological Service (1976) *Symposium on Meteorology and Food Production*: Wellington. 30 April.
- 105 Bob Crowder, personal communication, August 2000.
- 106 John McCaskey, *ibid.*
- 107 *The Press*, 29 November 1986.
- 108 Three phases of subdivision have occurred. First, land separated by the realignment of State Highway around Waipara was sold off in stages as it was developed through to the early 1990s. Then Stage two involved subdivision up McKenzie’s Road which took place from 1990-1 to 1997. Stage three has been the most successful and involved sale of further viticultural sections bordering the Weka Creek. All but one of these sold in 2000-2001. In total, some 19 vineyards have been developed from McCaskey’s original Weka Plains holding.
- 109 McCaskey, *ibid.*
- 110 *Ibid.*
- 111 Bruce Moore, pers.coms, 17 & 24 October 2001; Daryl Harris, pers.com., 18 October 2001.
- 112 Mark and Michelle Rattray, pers. coms., 15 & 23 November 2001 .
- 113 “Window on Waipara”, *WINENZ magazine*, June/July, 1998, pp. 8-15.
- 114 Cooper (1994), pp. 168, 170-171,
- 115 Schuster, Danny (2000) pers. com.; and Cooper, *ibid.*, p.170.
- 116 *Cuisine*, no. 82.
- 117 *Lincoln College News*, March 1989, p.5.
- 118 *Infolinc*, Vol. 1, no. 17. 1 November 1993.
- 119 *Ibid.*
- 120 *Ibid.*
- 121 *Infolinc*, Vol. 3, no. 19. 2 October 1995.
- 122 *Ibid.*
- 123 Campbell, Bob (2000) “Understandable Pinot Envy”, *Cuisine*, No. 82, September, pp. 154-5. Also, Danny Schuster’s letter to the Editor which appears in the next issue, No.

83 pp. 25-6.

- 124 The problem had arisen when Dr David Heatherbell was appointed to the Department of Animal Science. The two had become separated further as a result of the abolition of the Department of Horticulture in 1994 to resolve quite unrelated management problems. The two disciplines had always been together in the old Department under David Jackson's direction from 1973.
- 125 Draft Strategic Plan, Centre for Viticulture and Oenology, May 1999.
- 126 "What's behind New Zealanders' growing love of wine?" *Outlook*, Lincoln University, October 1998.
- 127 George (1996), *op. cit.*, pp. 281-2.
- 128 Bank of New Zealand Wine and Grape Industry *Statistical Annual* 2000, p. 16.
- 129 *New Zealand Wine Market Research -Results of a survey of New Zealand and International Visitor Wine Drinkers.* (1999) Advanced Business Research Limited.
- 130 Ross Spence in *Wine Institute of New Zealand Annual Report 1998*.
- 131 Data found at: <http://www.tradenz.govt.nz/coopetition/en/casestudies/cellars.html>
- 132 *Ibid.*
- 133 Robin Mundy, St Helena Wine Estate, personal communication, 4 May 2001. See also Gow, Hamish R., Oliver, Lance D., and Gow, Neil G. (2002) "Co-operating to compete in high velocity global markets: The strategic role of flexible supply chain architecture", *Journal of Chain and Network Science*, vol. 2, no.1.
- 134 *New Zealand Wine Market Research -Results of a survey of New Zealand and International Visitor Wine Drinkers.* (1999) Advanced Business Research Limited.
- 135 *Ibid.*
- 136 *Ibid.*
- 137 Campbell, Bob (2001) *Cuisine Wine Annual 2001*. Cuisine Publications Ltd.: Auckland, p. 189.
- 138 Bigsby, Hugh; Trought, Mike;Lambie, Ross and Bicknell, Kathryn (1998) *An Economic Analysis of the Wine Industry in Marlborough - Report to the Marlborough Winemakers*. Agribusiness and Economics Research Unit, Lincoln University, Canterbury, New Zealand.