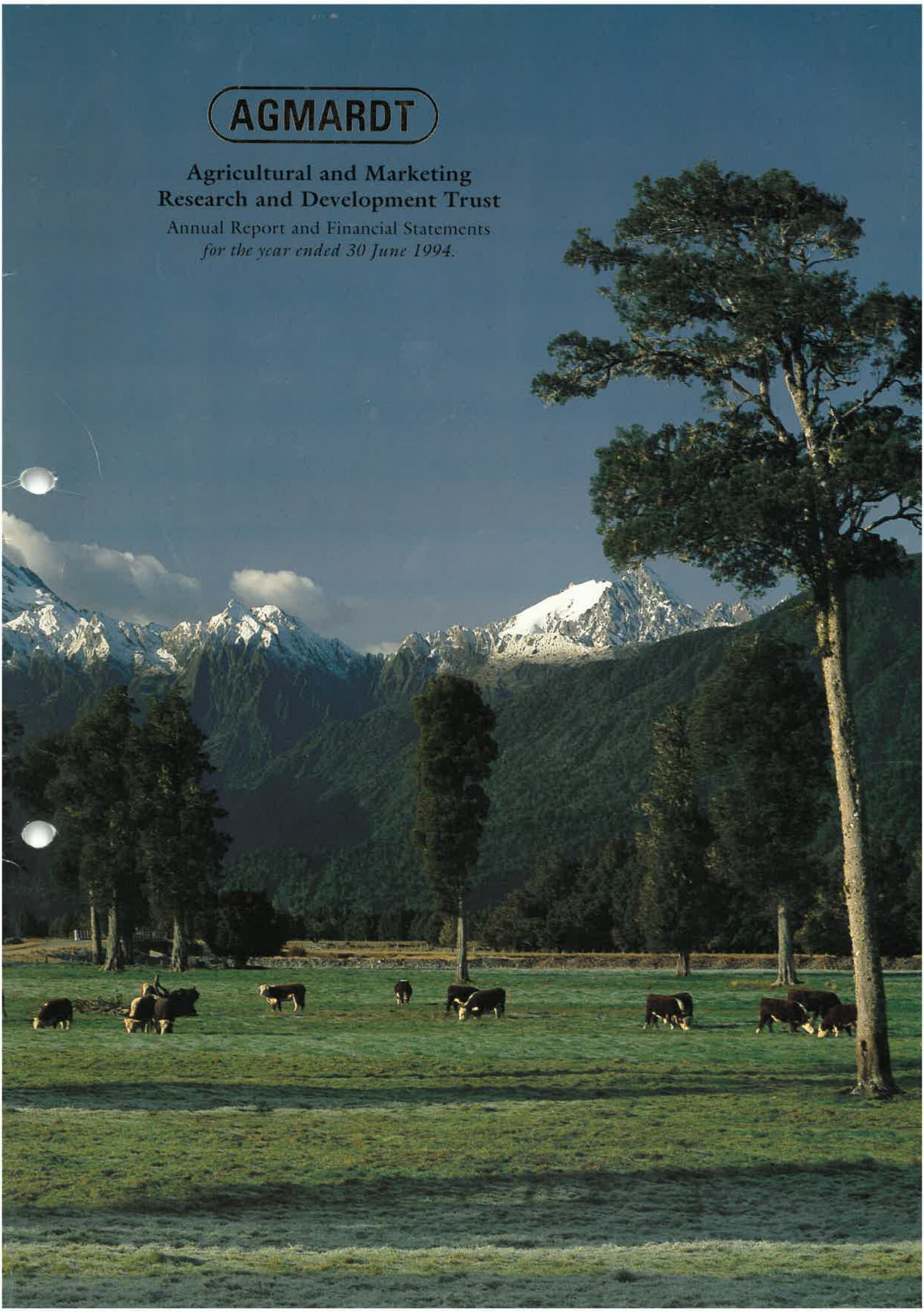
AGMARDT

Agricultural and Marketing Research and Development Trust

Annual Report and Financial Statements

for the year ended 30 June 1994.



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The Minister of Agriculture
Parliament Buildings
WELLINGTON.

Dear Sir,

We have the honour to transmit to you the annual report of the Agricultural and Marketing Research and Development Trust for the year ended 30 June, 1994.

This annual report has been prepared pursuant to Clause 17 of the Deed of Trust dated 20 October, 1987.

Yours faithfully,

C.J. Moyle
For the Board of Trustees

STATEMENT OF OBJECTIVES

The Trust was settled by the Crown in terms of a Trust Deed dated 20 October 1987, which sets out the objects of the Trust. The Trustees, having considered the Trust Deed and the role of the Trust, have determined the following Statement of Objectives:

To promote and encourage in New Zealand's interest the agricultural, pastoral and horticultural industries through:

- Improved marketing and, where there are market opportunities, increased production;
- Development of existing and new products;
- Greater efficiency in production, processing and distribution;
- Research in relation to these objectives;
- The training of individuals towards appropriate advanced expertise in these industries;
- The collection and dissemination of information arising from any research undertaken in pursuance of the foregoing objectives.

TRUSTEES' REPORT 1993/94

BOARD OF TRUSTEES

The Hon. Colin Moyle	Chairman
John Clarke	Trustee
Gordon Hogg	Trustee
Adhurji Valabh	Trustee

MANAGEMENT

Susan Christie	Secretary Manager
Dr Edward Bollard	Scientific Adviser
Ian Kendall	Financial Adviser

TRUST OFFICE 7th Floor,
43 High Street,
Auckland
Phone 0-9 373 3370
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During the 1993/94 year AGMARDT has allocated $2,469,981 as research grants to a variety of organisations and approved loans of $100,000. Apart from the Scholarship Programme and the Chairs in both Animal Welfare and International Trade at Massey and Lincoln Universities, the bulk of the allocations went to named topics advertised in the general funding round in June 1993.

AGMARDT continues to play an identifiable role in supporting research and education in agriculture. During 1994 the Trust has awarded scholarships to allow students with good undergraduate records to work for masterate and doctorate degrees at New Zealand universities. Sixteen masterate students have been awarded scholarships of $6,000 for one year's study and ten doctorate students have been awarded scholarships to provide $15,000 per annum for up to three years.

The scholarships are intended to encourage research in the broad field of agriculture and to prepare holders for careers in the agricultural sector. To facilitate the interchange of ideas, a one day seminar was held in Wellington in May 1994, which was attended by all doctorate and masterate students.

The Trust's income is derived from investments. During the year the management of the Trust's investments was transferred to Southpac Investment Management Services Limited and the valuation policy changed from a yield to maturity basis to market valuation. Due to a downturn in the bonds and equities markets, the income for the year ended 30 June 1994 was below expectations.

There has been a major review of the bovine tuberculosis research project funded by AGMARDT conducted by Massey University to assess progress made and future potential. The review committee comprised two overseas experts...from the Pasteur Institute, France and the CSIRO, Australia and was chaired by a New Zealand scientist. A decision was made to continue funding support, but in future for the Trust to have a more active involvement with the management of the project.

TRUSTEES

The appointments of Trustees, the Hon. Colin Moyle and Mr John Clarke expired on the 20th October 1993, but both have been re-appointed by the Minister of Agriculture for a further term of three years.

FUTURE ACTIVITIES

The Trust continues to seek to identify agricultural industry sectors where research and education can most effectively be supported by AGMARDT funding.

In May 1994 the Trustees advertised the following areas for support for the year commencing 1 July 1994:

- **Bovine Tuberculosis Research**

AGMARDT has been a principal sponsor of Bovine Tuberculosis Research since 1990 and intends to continue funding to support this area of research along with research into methods of curbing the spread of the disease by possums.

- **Marketing Initiatives**

The Trust places some emphasis on supporting marketing initiatives which encompass practical approaches to identifying marketing opportunities and solutions.

- **Sustainable Agriculture**

AGMARDT will support research proposals that seek to identify areas of potential investigation under the topic "sustainable agriculture" so that priorities may be set. The Trust believes that the first step is to recognise particular areas of research within the broad field of sustainable agriculture such as market requirements, farming methodologies and agri-business processes.

- **Technology Transfer Publications**

AGMARDT has recognised that worthwhile and interesting research does not always reach farmers to enable them to use findings in a practical manner. The Trust is therefore prepared to assist in the publication of practical guides and manuals which would be of interest and assistance to farmers, horticulturalists and foresters.

AGMARDT will also consider funding non-scientific studies and seminars where they are of paramount national importance.

GRANTS 1993-1994

No.	Organisation	Project Title	Grant $
1876	Lincoln University	Chair in International Trade Policy	240,000
1877	Mr Brian Chamberlin	International Policy Council on Agriculture & Trade - membership sponsorship	100,000
1904	Federated Farmers of NZ (Inc)	Pacific Basin Rural Leadership Scholarships (Year 3)	50,000
1922	Massey University	Transfer of subsoiling technology in Northland	9,600
1936	HortResearch	Disease management system for grapes	80,000
1944	HortResearch	Comparison of offshore product testing with testing in New Zealand	90,000
1953	Aspara Pacific Ltd	Flask to Field - A Nurseryman's Guide	12,500
1958	Massey University	Analysis of food consumption patterns in Java	42,500
1987	Lincoln Technology	New means of technology transfer (on-farm plot trials)	50,000
2007	Caughey O'Boyle Ltd	Technology transfers and industry clustering	26,000
2030	Landcare Research	Endophytes of kiwifruit and apples	7,000
2037	Agriculture New Zealand	Farm Management Decision Competition	20,000
2054	New Zealand Vegetable & Potato Growers Federation (Inc)	South American Vegetable Delegation	6,500
2059	New Zealand Society for Horticultural Science (Inc)	Symposium series	10,000
2075	NZ Forest Research Institute	Specialty timber species	14,000
2093	University of Otago	Key factors inhibiting market directed research in New Zealand agriculture	15,000
2098	Farm Quality Group Ltd	Study of the on-farm cost of drench resistance in growing lambs	60,000
2106	Federated Farmers of NZ (Inc)	Hawke's Bay Pilot Farms project	27,500
2111	Dr Gerald Scales	Use of exotic sire breeds for New Zealand lamb industry	10,000
2139	AgResearch Grasslands	Premium pasture programme	135,000
2150	AgResearch	Whole-farm modelling of sustainable land use options	20,000
2158	NZ Tamarillo Export Council Ltd	Marketing initiatives for New Zealand tamarillos	25,000
2164	New Zealand Society of Farm Management (Inc)	Quality management for farmers	12,000
2169	Massey University	Grotech - an integrated package of grower pig management	20,000
2171	Dr A J Allison	Market assessment for sheep milk products	25,000
2183	Ministry of Agriculture and Fisheries	Wairoa sustainable agriculture and landuse demonstration	30,000
2187	New Zealand Contractors' Federation (Inc)	Pasture renewal contractors courses	30,000
2192	NZ Game Industry Board	Deer handling training programme	60,000
2193	NZ Game Industry Board	Quality systems accreditation for the on-farm quality assurance programme	100,000
2194	Federated Farmers of NZ (Inc)	"On Farm" Certification Investigation	25,000
2195	Fortex Group Ltd	Sheep washing project - second stage	15,000
2196	Ministry of Research, Science and Technology	National Science Strategy Committee Workshop	2,000
2203	University of Auckland	Doctorate Scholarship - D J Blanchon	51,000
2215	University of Otago	Doctorate Scholarship - R M Elliot	51,000
2216	Massey University	Doctorate Scholarship - C A Eustace	51,000
2224	Massey University	Doctorate Scholarship - S O Hoskin	51,000
2233	University of Waikato	Doctorate Scholarship - E La Franchie	13,000
2238	University of Auckland	Doctorate Scholarship - A D MacKenzie	51,000

No.	Organisation	Project Title	Grant $
2240	Lincoln University	Doctorate Scholarship - A R G McLachlan	51,000
2251	University of Waikato	Doctorate Scholarship - G D Nicholas	51,000
2255	Lincoln University	Doctorate Scholarship - G J Pickering	51,000
2261	Massey University	Doctorate Scholarship - S K Shaw	51,000
2272	University of Waikato	Doctorate Scholarship - A S Walcroft	51,000
2301	Massey Unversity	Masterate Scholarship- M Clayton	7,000
2306	University of Canterbury	Masterate Scholarship - E J Norton	7,000
2308	University of Auckland	Masterate Scholarship - B L Wollaston	7,000
2314	Lincoln University	Masterate Scholarship - P McAllum	7,000
2319	Massey University	Masterate Scholarship - G H Dryden	7,000
2321	Lincoln University	Masterate Scholarship - A J E Moorhead	7,000
2325	University of Auckland	Masterate Scholarship - M K Gatt	7,000
2327	University of Auckland	Masterate Scholarship - A F Howarth	7,000
2328	University of Otago	Masterate Scholarship - M Longley	7,000
2329	Massey University	Masterate Scholarship - T L McGowan	7,000
2332	University of Waikato	Masterate Scholarship - B V Hodgetts	7,000
2334	University of Waikato	Masterate Scholarship - A Beaton	7,000
2337	Lincoln University	Masterate Scholarship - M Schaffer	7,000
2339	University of Auckland	Masterate Scholarship - R G Storey	7,000
2415	University of Waikato	Masterate Scholarship - B Haigh	7,000
2417	Lincoln University	Masterate Scholarship - A Evans	7,000
2500	Ministry of Agriculture and Fisheries	Kiwifruit Industry Review	195,881
2501	Ministry of Agriculture and Fisheries	Agricultural Congress	50,000
2503	Federated Farmers of NZ (Inc)	Feasibility of vehicle to coordinate quality systems between sectors of agricultural industry	19,500
2504	Federated Farmers of NZ (Inc)	Review of institutional arrangements for the meat and wool industries	50,000
2505	Kotuku Productions	AGRI-TECH 2000	50,000
Provision for Grants not yet finalised:			100,000
1746	HortResearch	Summerfruit booklet	
1918	The NZ Avocado Growers Assoc Inc	Avocado growers' manual	
1938	HortResearch	Kiwifruit pollination manual	
1940	HortResearch	Two viticulture bulletins	
2110	New Zealand Fruitgrowers Federation	Citrus manual	
2131	AgResearch	Winter feed options for lambs handbook	
2506	University of Otago	Meeting on Mycobacterium Bovis	
			Total Grants $2,469,981

LOANS 1993 - 1994

No.	Organisation	Project Title	Loan $
2103	NZ Technology Development Ltd	AGMEX market development investigation project	50,000
2172	Milcon Developments (NZ) Ltd	Milcon on-farm milk concentrator	25,000
2502	Milcon Developments (NZ) Ltd	Milcon on-farm milk concentrator	25,000
			Total Loans $100,000

MANAGEMENT STATEMENT

for the year ended 30 June 1994.

In terms of section 42 of the Public Finance Act 1989, we certify that:

1. We have been responsible for the preparation of these financial statements and the judgement used therein; and,

2. We have been responsible for establishing and maintaining a system of internal control designed to provide reasonable assurance as to the integrity and reliability of financial reporting; and,

3. We are of the opinion that these financial statements fairly reflect the financial position as at 30 June, 1994 and the results of operations for the year ended on that date.

On behalf of the Trust

C.J. Moyle Chairman

S.M. Christie Secretary Manager

Dated 24 October 1994.

OPERATING STATEMENT

for the year ended 30 June 1994

	Year to 30.6.94 Actual $	Year to 30.6.94 Budget $	Year to 30.6.93 Actual $
INCOME			
Interest earned on short term investments	53,454	90,900	39,836
Interest earned on government stock	1,777,476	4,329,235	4,865,633
Interest earned on commercial bonds	1,409,521	489,564	444,355
Profit on Fixed Interest Portfolio	597,710	-	-
Profit on Equities Portfolio	282,562	-	-
	4,120,723	4,909,699	5,349,824
LESS EXPENSES			
Administration costs	318,373	240,300	200,321
Audit fee	8,000	12,000	12,000
Conference and project review costs	36,134	-	-
Depreciation and loss on sale of fixed assets	2,788	2,240	338
Lease charges	4,526	7,020	7,577
Portfolio management fees	53,370	-	-
	423,191	261,560	220,236
Unrealised investment fluctuation	2,345,282	-	-
SURPLUS OF INCOME OVER EXPENDITURE BEFORE ALLOCATION OF GRANTS AND LOANS	1,352,250	4,648,139	5,129,588
Grants made this year *(Accounting policy 2.4, Note 4)*	2,469,981		2,534,344
Grants relinquished this year	(85,274)		-
Loans made this year *(Accounting policy 2.5, Note 5)*	100,000		275,000
	2,484,707		2,809,344
SURPLUS/(DEFICIT) OF INCOME OVER EXPENDITURE AFTER ALLOCATION OF GRANTS AND LOANS	(1,132,457)		2,320,244
Balance of Accumulated Income at beginning of year	1,326,779		994,527
Transfers to/from reserves:			
Transfer to/from Income Fluctuation Reserve *(Note 3)*	418,286		(1,500,000)
Provision for the maintenance of the Capital Fund *(Note 2)*	(418,286)		(487,992)
Transfer from Provision for Grants *(Note 4)*	-		105,000
Transfer to Provision for Loans *(Note 5)*	-		(105,000)
Balance of Accumulated Income at end of year	$194,322		$1,326,779

The notes to the financial statements on pages 11 to 14 form an integral part of these accounts and should be read in conjunction with these accounts.

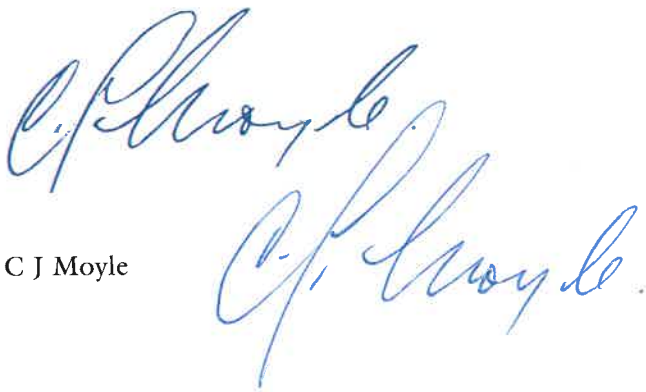
STATEMENT OF FINANCIAL POSITION

as at 30 June 1994

	30.6.94 $	30.6.93 $
TRUST FUNDS		
CAPITAL *(Note 1)*	**32,000,000**	32,000,000
CAPITAL RESERVES		
Capital Fund Maintenance Reserve	**6,444,278**	6,025,992
Income Fluctuation Reserve *(Note 3)*	**9,081,714**	9,500,000
REVENUE RESERVES		
Accumulated Income	**194,322**	1,326,779
Provision for Grants *(Note 4)*	**5,808,154**	6,312,975
Provision for Loans *(Note 5)*	**224,170**	216,670
TOTAL TRUST FUNDS	**$53,752,638**	$55,382,416
REPRESENTED BY:		
CURRENT ASSETS		
Cash at bank and call deposits	**532,530**	796,721
Short term deposits	**1,050,000**	-
Interest receivable	**4,036**	1,330,241
TOTAL CURRENT ASSETS	**1,586,566**	2,126,962
LESS **CURRENT LIABILITIES**		
Accounts payable and accruals	**29,420**	18,455
NET WORKING CAPITAL	**1,557,146**	2,108,507
INVESTMENTS *(Note 6)*	**52,181,732**	53,262,653
FIXED ASSETS *(Note 7)*	**13,760**	11,256
NET ASSETS	**$53,752,638**	$55,382,416

The notes to the financial statements on pages 11 to 14 form an integral part of these accounts and should be read in conjunction with these accounts.

On behalf of the Trust Board



C J Moyle

STATEMENT OF CASH FLOWS

for the year ended 30 June 1994

	30.6.94 $	30.6.93 $
CASH FLOWS FROM OPERATING ACTIVITIES		
Cash was provided from:		
Interest and dividends received	**5,246,210**	5,565,889
Cash was applied to:		
Payments to suppliers and employees	**376,759**	221,665
Payments for Grants *(Note 4)*	**2,889,528**	2,182,890
Payments for Loans *(Note 5)*	**92,500**	163,330
	3,358,787	2,567,885
Net cash inflow from operating activities *(Note 10)*	**1,887,423**	2,998,004
CASH FLOWS FROM INVESTING ACTIVITIES		
Cash was provided from:		
Maturity and sale of investments	**111,109,439**	11,350,000
Cash was applied to:		
Purchase of investments	**96,100,673**	13,805,987
Purchase of fixed assets	**229**	11,594
	96,100,902	13,817,581
Net cash inflow/(outflow) from investing activities	**15,008,537**	(2,467,581)
Net increase in cash held	**16,895,960**	530,423
Add cash at start of year (1 July)	**796,721**	266,298
Balance at end of year (30 June)	**$17,692,681**	$796,721
Balance at end of year represented by:		
Cash at bank and call deposit	**532,530**	796,721
Short term deposits	**1,050,000**	-
Southpac Investment Management Services Ltd cash deposits *(Note 6)*	**16,110,151**	-
	$17,692,681	$796,721

The notes to the financial statements on pages 11 to 14 form an integral part of these accounts and should be read in conjunction with these accounts.

REPORT OF THE AUDIT OFFICE

TO THE READERS OF THE FINANCIAL STATEMENTS OF THE AGRICULTURAL AND MARKETING RESEARCH AND DEVELOPMENT TRUST FOR THE YEAR ENDED 30 JUNE 1994

Authority and Scope of the Audit

The financial statements appearing on pages 7 to 9 and 11 to 14 were prepared pursuant to section 41 of the Public Finance Act 1989 and are the responsibility of the Trust. The Audit Office's responsibilities include a requirement, pursuant to section 43 of the Public Finance Act 1989, to express an opinion on the statements.

We conducted our audit in accordance with generally accepted auditing standards, with the objective of obtaining reasonable assurance that the financial statements are free from significant errors or omissions. In our audit we reviewed the evidence to support the amounts and disclosures in all statements. We also assessed the accounting practices used.

Unqualified Opinion on the Financial Statements

In our opinion, the financial statements of the Agricultural and Marketing Research and Development Trust fairly reflect:

- The financial results and cash flows for the year ended 30 June 1994; and
- The financial position as at 30 June 1994.

R. H. D. Moore
AUDIT NEW ZEALAND
on behalf of the Controller and Auditor-General

24 October 1994
Auckland,
New Zealand

STATEMENT OF ACCOUNTING POLICIES

for the year ended 30 June 1994

The Agricultural and Marketing Research and Development Trust was established by Deed of Trust dated 20 October 1987 and the financial statements have been prepared pursuant to Clause 17 of the said Deed and S. 41 of the Public Finance Act (1989).

1. GENERAL ACCOUNTING POLICIES

1.1 The measurement base adopted for investments is market value based New Zealand Stock Exchange selling quotations for equities and closing market yields for fixed interest investments. Other assets are recorded at historical cost. Reliance is placed on the fact that the Trust is a going concern. Accrual accounting is used to match expenses and revenues.

2. PARTICULAR ACCOUNTING POLICIES

2.1 Asset Valuation

Investments are valued at market value with any resultant increase or decrease over cost being reflected in the Operating Statement. Physical assets, which comprise office equipment, are recorded at cost less accumulated depreciation. Depreciation is provided on a straight line basis at rates calculated to allocate the cost or valuation of an asset, less any estimated residual value, over its estimated useful life. The estimated useful life of the office equipment is 5 years.

2.2 Income Tax

There is no provision for income tax in these financial statements. Under current legislation, income derived by the Trust, being a registered Charitable Trust, is exempt in terms of section 61 (25) and 61 (27) of the Income Tax Act 1976.

2.3 Goods and Services Tax

The Trust is not a "registered person" in terms of the Goods and Services Tax Act 1985. Consequently, all expenses and capital acquisitions are shown inclusive of GST.

2.4 Grants

Any grants approved by the Trustees and subject to any unfulfilled requirements or agreements have been accounted for within the classification of Trust Funds. Future benefits may accrue to the Trust as a result of certain grants made. These benefits are not able to be quantified with any certainty and therefore have not been recognised in these financial statements.

2.5 Loans

Any loans approved by the Trustees are transferred to Provision for Loans within the classification of Trust Funds. This treatment is in accordance with the treatment of Provision for Grants. The Trustees have resolved not to recognise the loans paid as an asset of the Trust on the basis that the recoverable value cannot be established with any certainty.

2.6 Allocations of Income

Provisions are included in the Operating Statement to allocate sufficient income to maintain the real value of the Trust Capital and to account for the transfer to the Income Fluctuation Reserve in terms of Note 3.

2.7 Hedging Instruments

The Trust through its investment managers enters into hedging instruments such as futures, options and forward exchange contracts. These are converted to the New Zealand Dollar rate at balance date with all realised and unrealised gains and losses being recognised in the Operating Statement.

2.8 Foreign Currencies

Transactions recognised in foreign currencies are translated to New Zealand Dollars at the exchange rate prevailing at the transaction date. All amounts denominated in foreign currencies are converted to New Zealand Dollars at balance date and all realised and unrealised gains and losses are recognised in the Operating Statement.

3. CHANGES IN ACCOUNTING POLICIES

During the year the management of the Trust's investments was transferred to Southpac Investment Management Services Limited and the valuation policy changed from a yield to maturity basis, to market valuation. It is not practicable to quantify the effect of this change.

All other accounting policies have been applied on bases consistent with those used in the previous year.

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 30 June 1994

1. CAPITAL

The Capital of the Trust was set by Clause 1(b) of the Deed of Trust to be $32,000.000. This capital was settled in April 1988 and is to be retained in perpetuity and used to generate income for the Trust.
In terms of Clause 4(b), only with the approval of the Minister of Agriculture may any of the capital be applied toward the objects of the Trust.

2. PROVISION FOR THE MAINTENANCE OF THE CAPITAL FUND

An objective of the Trust is to maintain the real value of the capital fund since 1 July 1988.
An amount of $418,286 (1993: $487,992) has been provided for in the current year, representing 1.1% (based on the Consumer Price Index movement for the year ended 30 June 1994) of the total capital sum of $32,000,000 and the opening balance of the Capital Fund Maintenance Reserve.

3. INCOME FLUCTUATION RESERVE

In terms of Clause 1(a) of the Deed of Trust, an initial amount of $3,500,000 was received by the Trust in November 1987. This payment was deemed not to be capital of the Trust but instead to form part of the net income of the Trust Fund.
For the year ended 30 June 1993, a transfer from accumulated income of $1,500,000 was made to bring the total of this reserve at that date to 25% of the sum of the Trust Capital plus the Capital Fund Maintenance Reserve.
Due to the downturn in the bond and equities markets, the income for the year ended 30 June 1994 is below expectations and there is insufficent income to maintain the reserve at 25% of Capital. The amount necessary to transfer to the Capital Fund Maintenance Reserve has been drawn from the Income Fluctuation Reserve.
The movement in this reserve during the year is as follows:

	1994 $	1993 $
Balance 1 July 1993	**9,500,000**	8,000,000
Transfer to/from Accumulated Income	**(418,286)**	1,500,000
Balance 30 June 1994	**$9,081,714**	$9,500,000

4. PROVISION FOR GRANTS

	1994 $	1993 $
Balance 1 July 1993	**6,312,975**	6,066,521
Add		
Grant applications approved during the year	**2,469,981**	2,671,844
Less grants cancelled during the year	**(85,274)**	(137,500)
	2,384,707	2,534,344
Less transferred to Provision for Loans	**-**	(105,000)
	2,384,707	2,429,344
	8,697,682	8,495,865
Less grant payments during the year	**(2,889,528)**	(2,182,890)
Balance 30 June 1994	**$5,808,154**	$6,312,975
Comprising: 1990 Grants not paid out	**-**	130,000
1991 Grants not paid out	**532,684**	1,244,680
1992 Grants not paid out	**1,397,044**	2,519,736
1993 Grants not paid out	**1,711,483**	2,418,559
1994 Grants not paid out	**2,166,943**	-
	$5,808,154	$6,312,975

5. PROVISION FOR LOANS

	1994 $	1993 $
Balance 1 July 1993	216,670	-
Add loan applications approved during the year	100,000	275,000
Add 1992 Provision for Loans transferred from Provision for Grants	-	105,000
	316,670	380,000
Less loan payments during the year	(92,500)	(163,330)
Balance 30 June 1994	$224,170	$216,670
Comprising: 1992 Loans not paid out	6,670	6,670
1993 Loans not paid out	180,000	210,000
1994 Loans not paid out	37,500	-
	$224,170	$216,670

6. INVESTMENTS

	1994 $
Managed Funds	
Current year comprising:	
Fixed Interest: Domestic	16,316,958
- Accrued Interest	300,264
Offshore	6,488,181
- Accrued Interest	113,642
Equities: Domestic	8,423,676
Offshore	5,189,495
Short Term Deposits *(Note (a))*	15,349,516
Total Investments held as at 30 June 1994	$52,181,732

The historic cost of these investments is $55,098,434

Note (a). Short Term Deposits comprising:		$
Debtors	*- Sale of Investments*	*284,447*
Creditors	*- Purchase of Investments*	*(1,012,246)*
	- Investment Income	*(1,400)*
	- Management Fees	*(31,436)*
Cash		*16,110,151*
		$15,349,516

Prior year comprising:		1993 Face value	1993 Market value	1993 Book value
Current portion	- Government Stock	$17,500,000	$17,730,187	$17,317,320
Term portion	- Government Stock	29,475,000	31,534,121	29,897,561
	- Commercial Bonds	5,500,000	6,236,615	6,047,772
		$34,975,000	$37,770,736	$35,945,333
Total investments held as at 30 June 1993		$52,475,000	$55,500,923	$53,262,653

7. FIXED ASSETS

Office equipment	1994 $	1993 $
Cost as at 30 June 1994	15,966	11,594
Less accumulated depreciation	(2,206)	(338)
	$ 13,760	$ 11,256

8. LEASE COMMITMENTS

There were no lease commitments under operating leases as at 30 June 1994. (1993: $5,265)

9. CONTINGENT LIABILITIES AND FINANCIAL COMMITMENTS

The Trust has no contingent liabilities and no financial commitments as at 30 June 1994 other than those referred to in Notes 4 and 5. (1993 : Nil)

10. RECONCILIATION WITH REPORTED OPERATING (DEFICIT)/SURPLUS

	1994 $	1993 $
Reported (deficit)/surplus	(1,132,457)	2,320,244
Add (less) non-cash items:		
Treasury bills interest accruals	-	(6,993)
Government stock premium and discount accruals	(118,903)	(318,162)
Commercial bond premium accruals	43,669	41,188
Unrealised investment fluctuation	2,345,282	-
Depreciation	2,041	338
Loss on sale of fixed assets	747	-
	2,272,836	(283,629)
	1,140,379	2,036,615
Add (less) movements in other working capital items:		
Increase in accounts payable and accruals	5,902	(1,767)
Decrease in interest receivable	1,326,205	500,032
Managed Funds working capital	(381,069)	-
Realised loss on investments	293,327	-
Decrease in Provision for Grants made this year	(504,821)	246,454
Increase in Provision for Loans	7,500	216,670
	747,044	961,389
Net cash inflow from operating activities	$1,887,423	$2,998,004

11. FINANCIAL INSTRUMENTS

The financial instruments are subject to an interest rate risk.
There is no credit risk relating to the Fund Managers or the Custodian. Because of the diversification of investments there are no significant concentrations of credit risk within the investment portfolios.
Foreign currency hedges are taken out by the Fund Managers to minimise the exposure to foreign exchange fluctuations.
No comparison is provided between the carrying value and estimated fair value of financial instruments due to the carrying value reflecting market price.

	1994 $	1993 $
New Zealand		
Bonds and Deposits	31,966,738	53,262,653
Equities	8,423,676	-
North America		
Bonds and Deposits	-	-
Equities	1,846,565	-
Europe		
Bonds and Deposits	6,601,823	-
Equities	2,305,959	-
Japan and Far East		
Bonds and Deposits	-	-
Equities	1,036,971	-
Total		
Bonds and Deposits	38,568,561	53,262,653
Equities	13,613,171	-
	$52,181,732	$53,262,653

AGMARDT SCHOLARSHIPS

In recognition of the need for greater academic input to meet the growing complexities of primary production and international trade, AGMARDT has established a Scholarship Programme with the inaugural awards being made for study commencing in 1994. Scholarships were awarded to ten doctorate students and sixteen masterate students whose areas of study and research embrace diverse facets of agriculture in its broadest definition.

The masterate scholarships are for $6,000 for one year's study, while the doctorate scholarships provide $15,000 per annum for up to three years. In both cases there is an additional contribution to assist with fees.

"We were able to introduce these scholarships at a time when universities are finding it increasingly difficult to secure funds for both applied and pure research work, particularly in the agricultural field," says Trust Chairman, Hon. Colin Moyle. "Until now, the majority of available research monies has only been available to qualified researchers, mainly in the medical research area."

Doctorate scholar, Simone Hoskin, with AGMARDT Trustee, John Clarke and the Hon John Falloon.

"The AGMARDT scholarships aim to correct that imbalance and provide a unique opportunity for advanced study in the broad agricultural field."

To permit the interchange of ideas between scholars and also to promote an understanding of the requirements of potential employers, a one day seminar was held in May 1994 at which all scholars were present.

In addition to presentations from the doctorate students, representatives of Government and Crown Research Institutes spoke of the importance of agricultural study and research and provided examples of the ways in which the academic achievements of the scholars could be used for the advancement of the agricultural industry in New Zealand.

The Scholarship Programme is being continued in 1995 with up to ten doctorate and fifteen masterate scholarships being made available.

SUPPORT FOR AGRICULTURAL EDUCATION

AGMARDT now supports agricultural education in a number of ways, especially with the Scholarship Programme. As an extension of this sector of its work, AGMARDT has agreed to support the creation of new Chairs in existing departments at Massey and Lincoln Universities. Each Chair will strengthen the promotion and teaching of agricultural subjects which are becoming of increasing importance to New Zealand's economy. In each instance, AGMARDT will support the appointment of a professor for three years, during which time the University concerned will be seeking to continue the appointment on a permanent basis.

The establishment of two new Chairs has already been agreed. These are:

MASSEY UNIVERSITY

A Chair in Animal Welfare Science in the Faculty of Veterinary Science. Dr N.G. Gregory from the University of Bristol, UK, has been appointed to this position.

LINCOLN UNIVERSITY

A Chair in International Trade Policy, with responsibilities covering a number of existing departments. Two of these departments are the Department of Entomology and Animal Ecology (concern for pesticide residues and phytosanitary standards for access of agricultural and horticultural products), and the Department of Economics and Marketing (development and negotiation of trade and marketing policies). This position has been advertised.

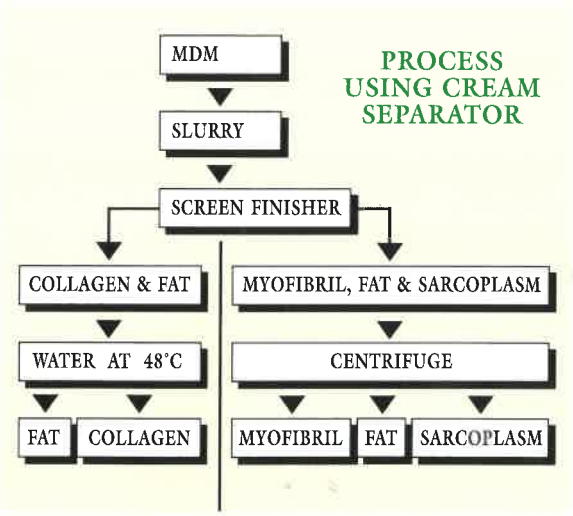
The tasks of the new professor of Animal Welfare Science will be:

- To develop Animal Welfare Science curricula at Massey University at both undergraduate and graduate levels, not only in the Faculty of Veterinary Science, but also in the Faculties of Science and of Agricultural Sciences.
- To help improve animal welfare awareness, standards and practices in New Zealand.
- To help reduce the "urban-rural gap" in understanding.

The treatment of farm animals is becoming an issue of international concern. Public attitudes to the use and welfare of animals are changing rapidly. The ways in which animals are raised, handled, transported and slaughtered can all be criticised by those who judge farming practices harshly in order to gain economic advantage or because they are misinformed.

At present New Zealand is perceived to have a good animal welfare reputation internationally, but issues such as the docking of the tails of dairy cows or the early shearing of lambs do attract international criticism from time to time.

To enhance our reputation as a promoter of animal welfare and as a critic of welfare inadequacies here or elsewhere, it is necessary to increase the teaching of animal welfare science to produce more experts in this field and enhance the profile of the subject among agriculturalists in general.



USES OF MECHANICALLY DEBONED MEAT

In a programme funded by AGMARDT the Food Technology Research Centre at Massey University has conducted a study to investigate the feasibility of separating mechanically deboned meat (MDM) and meat trimmings into fractions of myofibril, tallow, collagen and sarcoplasm and to investigate economic uses of these by-products.

MDM is currently used for rendering and small goods applications but its uses have been limited.

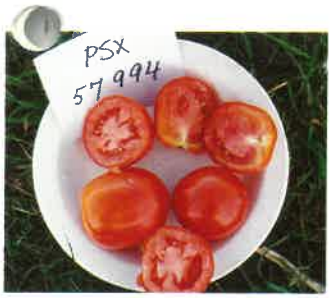
The separation process is in two stages. Initially, it involves removal of collagen and some tallow from a slurry of the meat by screen sieving. This is followed by isolating the myofibril, sarcoplasm and the remaining tallow from the sieved slurry of the meat in a cream separator.

Myofibril is a high quality ingredient, containing 95% protein, and can be incorporated into sausages, beef burgers, pâté and restructured steak. These products using myofibril compare favourably with those of 100% meat. Myofibril is completely soluble in brine and could have potential as a gelling ingredient in brines pumped into hams. The benefit of the remaining fractions is yet to be realised although a number of possibilities exist. For example, in the study collagen was manufactured into an opaque film which may be useful in the manufacture of extruded sausage casing.

Brine containing Myofibril.

Restructured steak containing Myofibril.

The study indicated that it would be feasible to produce myofibril from MDM if myofibril was used as an ingredient in high-value products like pâté. However, myofibril isolated from meat trimmings could feasibly and economically be used in sausages. Overall, the economics of separation depend significantly on maximising the returns from each constituent meat by-product.



DRIED TOMATOES A PROMISING EXPORT PRODUCT

It is considered likely that dehydrated tomatoes will have very good export and local market potential if they can be produced successfully in New Zealand.

Presently dehydrated tomatoes packaged dry or in olive oil are imported from Italy or Chile, but their high price usually restricts their sale to the restaurant trade.

In a trial supported by AGMARDT conducted at Crop and Food Research in Hastings, research has been undertaken to determine the process required to produce dried tomatoes using existing process tomato crops, to evaluate the acceptance of dehydrated tomatoes as a snack food and to identify a suitable export market. Promising markets have to date been identified in Australia.

The project has now been completed. Results in the first year were disappointing as a result of a bad season and inferior processing techniques, but the second season had better results. This year a total of seven tomato cultivars were evaluated and these were dehydrated by a local processor.

Bottling trials using olive oil are still being carried out and will carry on until the 1994-95 season. Semi-commercial work will also continue with processors.

AUTOMATION FOR DAIRY FARMERS

The average dairy herd in New Zealand continues to increase in size from 70 cows in 1974, to 170 in 1993.

To maintain viability, dairy farmers are building bigger dairies in an attempt to milk more cows per man hour. For example, rotary dairies have around 60 bails and herringbone dairies from 36 to 56 bails.

Until now, suitable automated equipment for flow measurement and cup removal for these large dairies has been largely unavailable.

Over the past two years, AGMARDT has assisted Double K Electronics, a company whose principal business activity is to research and develop suitable technology for the dairy industry, to complete development of the "610" cup remover. This product incorporates several new patented features and introduces to the dairy farmer at an affordable price microprocessor controlled milking rate measurement, compressed air activated switching, and infra-red remote programming so that the farmer can adjust the milking settings.

The "610" cup remover was released at the 1994 Mystery Creek Fieldays and is marketed through the Milkaware dealers in New Zealand for around $1,200 per bail, including installation. This DKE product is labour saving, improves the lifestyle of farmers and gives them the option to milk with one man when appropriate. The investment has a payback period of 1-2 years.

GROWING TREES WITH NATURALLY DURABLE HEARTWOOD

Farmers can grow trees that produce naturally durable heartwood which can be used in ground contact situations without the need for chemical treatment.

However until now they have had no clear guidelines on species selection, seed source, siting and silviculture.

Currently the New Zealand Forest Research Institute is undertaking a project to collate the existing relevant information on durable hardwood species and to establish and assess a series of field trials.

AGMARDT has provided funding for six trials which have been established on five farms and one forest site. Trials to compare growth and natural durability of heartwood of eight selected species have been established in Northland and the Bay of Plenty. One of the more promising species, *Eucalyptus muelleriana,* was selected for a genetic trial to assess the potential for improving natural durability through breeding.

Robinia pseudoacacia, for which improved genetic material is already available, was selected for trials to assess the effect of silvicultural treatment on growth and durability. These trials are sited in the central North Island and Rangitikei.

Initial research results will be available after three years, but results from the durability testing will not be available until the trees are at least ten years old. The New Zealand Forest Research Institute will continue assessments and intends to seek funding for additional trials.

IDEAL GROWING CONDITIONS FOR BLACK WALNUT

The increasing interest in planting trees on farms has generated a need for information about the siting of species other than pine.

A New Zealand Forest Research Institute project, supported by funding from AGMARDT, has involved identifying ideal planting sites for black walnut *(Juglans nigra)*.

Black walnut trees, native to eastern North America, produce a timber that is internationally renowned for the manufacture of high quality furniture. An advantage of growing black walnut in this country compared with some other timber species is that even a few mature trees can be considered a saleable resource.

Plantations at 24 locations from Northland to Otago were selected for assessment. Sampling from each location was carried out from a total of 36 plots, with most stands being 13 years old.

Detailed tree and site information and soil samples were collected at each plot and climatic data was compiled with input from Auckland University. Statistical analysis of the site and growth variables has identified the following factors to be important to black walnut growth:

- the mean temperature in the three driest months of the year;
- the proportion of clay in the soil (in 0-20 cm depth);
- the amount of calcium in the soil (in 0-20 cm depth);
- the amount of phosphorus in the soil (in 0-20 cm depth);
- the degree of shelter from surrounding vegetation.

As a result, site factors important for establishing black walnut in New Zealand conditions have been identified. Warm summers, sheltered sites, and calcium and phosphorus rich soils are important to ensure success.

There are many agricultural and horticultural properties in New Zealand which may have pockets or corners of land suitable for black walnut and owners of such high-quality land could play an important part in building up a New Zealand black walnut resource.

Photos on this page courtesy of NZFRI.

CALLA GROWERS HANDBOOK

A publication intended to serve as a practical guide to growing callas was formally launched by the Associate Minister of Agriculture in April 1994.

The New Zealand calla industry is still very young. First exports were in 1986 and amounted to $0.25 million in value. By 1993 this figure had risen to $5.3 million and the Calla Council is confident that by the year 2000 the industry will be exporting blooms worth $15 million, approximately 15 million stems. New Zealand is a world leader in hybrid and colour development of this species and it is recognised that callas grown here are superior in quality to those grown in other parts of the world.

While there is much technical information available about growing callas, until now it has largely existed in the minds of only a few growers and scientists. For the industry to maintain its technical lead the Calla Council thought it desirable to bring this information together in written form.

In a project supported by AGMARDT, the Council commissioned scientists and experienced growers to assemble their collective knowledge, expertise and experience for the benefit of the industry. This information has now been assembled in a growers handbook which is intended to serve as a practical guide rather than as a technical and scientific text. It has been published in ring binder format so that new information can be incorporated as it becomes available.

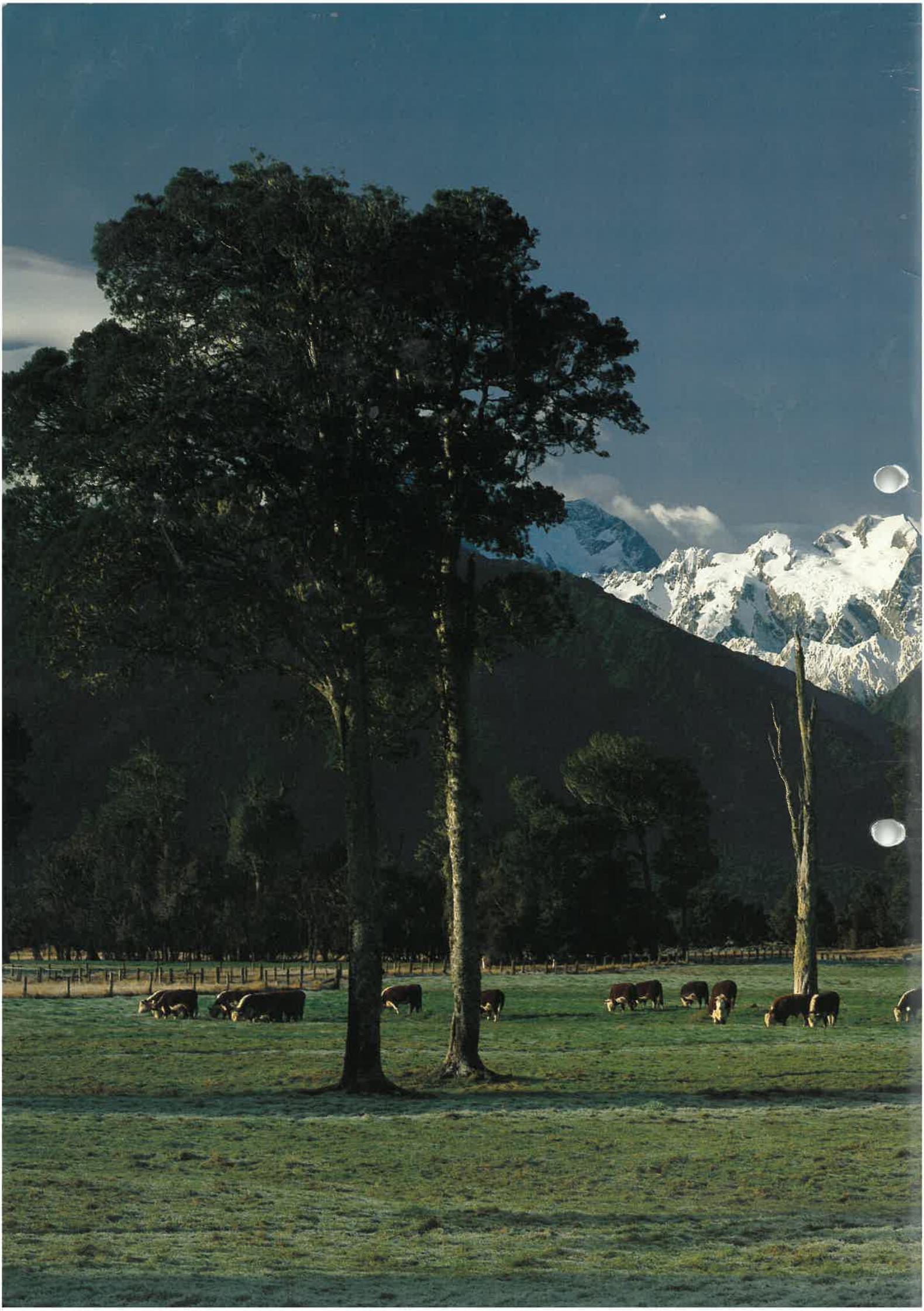
Photo courtesy of Kiwi Calla New Zealand Limited

POSTHARVEST COLLABORATION WITH AUSTRALIA

In a country such as New Zealand with a relatively small research community, it is rare to find all aspects of a science discipline adequately covered by internal research. It is a great advantage to enlarge our scientific community by including Australian laboratories and researchers. In this way, technologies, ideas and experience not available in this country can be accessed through collaborative programmes.

A programme funded by AGMARDT has been designed to encourage collaboration between the Postharvest Group of HortResearch and Australian laboratories and researchers. As part of this programme a major collaborative relationship has been established between HortResearch and the Hamilton laboratories of the DPI in Queensland, where New Zealand expertise on the biochemistry of heat responses in fruit is combined with the practical expertise of the Queenslanders in establishing postharvest protocols for heat-treating fruit for storage quality and disinfestation.

Another joint initiative involves a study of fruit enzymes by HortResearch and the CSIRO laboratories in Adelaide, allowing access to genetic material which would have taken much longer to develop in the New Zealand programme. New Zealand researchers have also carried out shipping trials of avocados to Queensland, in conjuction with the avocado industry.

Visits from researchers, Professor Roger Parish from Melbourne and Dr Simon Robinson from Adelaide, have been funded, and scientists from New Zealand have been assisted to attend Australian conferences in protein biochemistry and plant physiology.

Another programme just beginning involves the joint production of an undergraduate text book on plant physiology specifically designed for Australasian students. The AGMARDT programme has assisted with the early stages of this initiative.