

agresearch

Farming, Food and Health. **First**™

*Te Ahuwhenua, Te Kai me te Whai Ora. Tuatahi*

# OUR SCIENCE. YOUR FUTURE.

HIGHLIGHTS 2009



FROM LEFT: AgResearch's Fiona Sanggang (Animal Genomics), Shirley Martin and Steve Lawrence (Reproductive Biology) and Matt Bixley (Animal Genomics) in front of the new Christie Building at The Centre for Reproduction and Genomics in Invermay.

## CHAIRMAN'S REPORT

The past year has seen a rapidly changing global agribusiness and economic landscape. We have gone from celebrating record returns for dairy exports and commiserating on poor sheep meat prices to something of a reversal.

Throughout New Zealand, the pain wrought by difficult times has been real and widespread. AgResearch has not been immune to this recessionary climate, and has responded realistically. Without access to sufficient funding to maintain staff complement, a number of positions were unfortunately lost. However, the Board is confident the Institute has met the challenge of preserving its core scientific capabilities and services.

These harsh times have underscored the importance of the pastoral sector to our economy and the critical role science plays in its future growth. This has been recognised in investments like The Centre for Reproduction and Genomics in Invermay, and the \$190 million Government commitment to primary industry R&D during very tight fiscal times.

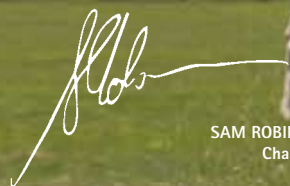
In seeking new and better ways to research and transfer knowledge to benefit land-based industries, AgResearch and Lincoln University explored a potential merger. Cost implications meant this initiative was not consummated as initially envisaged, but the process has resulted in strong relationships at various levels, and areas identified where our forces can be readily combined for mutual benefit. Combining capabilities will offer greatly enhanced opportunities for obtaining lucrative off-shore contracts, in research and teaching.

AgResearch is not new to such ventures. In the last five years it has greatly expanded its arrangements, commercial and otherwise, with domestic and international institutions. In forging its new partnership relationship with Lincoln University, AgResearch is showing that it is ready and willing to engage widely to create a world-class virtual pastoral university to benefit the sector, and New Zealand.

This year we lose three experienced Board members in Dr Robert Welch, Graham Fraser and Richard Davidson. Each has made an outstanding contribution to the Board and the business of the organisation. I am grateful for their guidance and support, together with that of the other Board members, during my first year as Chairman.

I would like to acknowledge and thank our Chief Executive Dr Andrew West and his team of scientific, technical and support staff for all their work during a challenging year. They are truly the heart of this organisation, and New Zealand is fortunate to have such a committed group of people that enables AgResearch to punch above its weight internationally.

View the Chairman's Report online at [www.youtube.com/watch?v=AOCvOmTQcNg](http://www.youtube.com/watch?v=AOCvOmTQcNg)



SAM ROBINSON  
Chairman

## CHIEF EXECUTIVE'S REPORT

I thank all the staff of AgResearch and its subsidiaries and joint ventures for their contribution to the New Zealand pastoral sector and to AgResearch.

It was a difficult financial year during which we reduced staff numbers through attrition, severance and redundancy by 53 full-time equivalent staff. At year's end we made a net loss after tax of \$754,000. Of some encouragement, our earnings before interest, reinvestment, restructuring and tax were \$9million (50% up on last year), representing a 6% gross margin, achieved through 4% operating revenue growth and 2% operating expenditure growth. The reinvestment amount mainly comprised investment in commercialisation and collaborative relationships.

Commercialisation highlights included the formation of ParaCo, a subsidiary developing early stage anthelmintic molecules to control livestock parasites, and the creation of VerifiTT, a partnership with domestic investors that will soon introduce traceability technology into woollen carpets with Elders. Elders believes that VerifiTT will help double the return to farmers per kilo of strong

wool. AgResearch largely internally funded its development. Similarly, AgResearch invested \$450,000 on collaboration with the Universities of Otago and Auckland, the former in a matched research fund and the latter on creating a "Pastoral Foods for Human Health Research Centre". Nevertheless, we continued to reduce our commercialisation and public good activities (50% down on 2006) and one particularly poignant loss was removal of our education service where we had worked with many thousands of secondary school students in biology to wide acclaim by teachers and principals.

The operating environment was tough, with a continued fall in sheep numbers and, in time, hence levy money, and with a fall in the dairy payout. The anticipated Fast Forward Fund was disestablished to later be replaced by the Primary Growth Partnership, a welcome commitment to R&D supporting the primary industries. However, two years of delay in spending new money is exacting an increasing cost on AgResearch, especially when in real terms funding from the Foundation for Research, Science and Technology has declined over recent years. Correspondingly,

not only did we lose staff we also focused hard on internal efficiency gains, including a state-of-the-art upgrade to our video conferencing system and better project management and time recording by scientists.

The second half of the year was dominated by our proposal with Lincoln University to merge and create a genuinely world-leading, research intensive university focused on New Zealand's most important industries – those associated with the land (including tourism). The merger failed because between us we had insufficient of our own funds to meet one-off merger costs and some increased operating costs. The country will not enjoy the benefit of this merger, which was likely to rapidly be worth an additional \$200 million of income each year to farmers. However, our two institutions will now work more closely to secure some of that benefit. Also disappointing was the High Court finding against the Environmental Risk Management Authority's decision to consider AgResearch's applications on transgenic animal research.

There were many highlights in the year. The best was commissioning The Centre for Reproduction and Genomics with The University of Otago on our Invermay campus. We spent \$15 million on this wonderful laboratory, which was built on time and under budget. We also invested \$6 million (about two thirds of which was in 2008/09) in converting our Tokanui research farm to dairying, including highly sophisticated scientific infrastructure to help create the high-value dairy industry of the future. Another highlight was our joint hosting with the Australian CSIRO of "The Horizons in Livestock Agriculture Conference" in Christchurch, which identified just how fast global agriculture is changing. With this opportunity in mind, AgResearch expanded its focus on China, India and Chile as we sought to improve revenue growth. We also grew our commercial relationships with multinationals, including CRV Delta and MARS. This was achieved on the back of a significant increase in measured client relationships, from 45% of clients rating us as very good or excellent to 76%.

Finally, we produced some wonderful science. The full sequence of the Bovine genome was published in the journal *Science*; AgResearch played a major part in this. We also helped sequence the Ovine genome. We developed high lipid GM ryegrasses; deep-rooting white clover hybrids and highly digestible lucerne. We discovered a new mechanism by which fungi grow and we discovered exactly how ryegrass staggers damages livestock at the cellular level. These are just a few examples.

View the Chief Executive's Report online at [www.youtube.com/watch?v=L\\_re1u8Edrk](http://www.youtube.com/watch?v=L_re1u8Edrk)



DR ANDREW WEST  
Chief Executive



## 2020 SCIENCE – ACHIEVEMENTS

AgResearch's 2020 Science strategy is our vision for how we will contribute to keeping New Zealand prosperous to 2020. Through this strategy, we work closely with industry partners to achieve goals that will together double the value produced by the dairy, meat and textile industries, while halving their costs and impacts on the environment by 2020. The strategy is regularly refined to ensure we are on the best course to make a positive difference to the sector. The 2020 Science goals feature on the following pages, each with one example from the hundreds of AgResearch research projects going on during 2008/09.

GOAL – TO HELP CREATE THE FUTURE DAIRY INDUSTRY. AN EXAMPLE:

### SUPER GRASS TO PRODUCE BETTER ANIMAL PRODUCTS



First generation of high energy ryegrass plants.

New Zealand pastoral farms often suffer from a lack of energy input, compared to overseas grainfed systems. That could be set for a shakeup with the development of a power-packed ryegrass that gives greater animal productivity and produces healthier, higher-value meat and milk.

An AgResearch team led by Dr Greg Bryan is looking to improve the quality of ryegrass to produce a high-energy forage that offers improved production in cattle.

The programme, funded by the Foundation for Research, Science and Technology, seeks to introduce a single gene that makes ryegrass produce tiny droplets of oil in the leaves to provide more energy for the grazing animal. First crops of plants grown in a glasshouse are half way towards the team's goal of a total fat content of eight per cent.

This research is being combined with a second technology, developed by Dr Nick Roberts and his team, that aims to ensure polyunsaturated fat is absorbed by the animal, to produce milk and meat that is lower in saturated fat. With global markets increasingly seeking foods that offer health benefits, this could significantly improve the value of dairy and meat products.

To achieve this, the scientists have to protect the ryegrass's polyunsaturated fats as they pass through the animal's rumen. Without protection, microbes in the rumen attack the fat, saturate it before it reaches the small intestine (where it is absorbed by the animal) and thereby change the fat profile of its meat and milk.

To accomplish this encapsulation, Dr Roberts and his team have engineered a new protein (polyoleosin) that wraps around the oil droplets and shields them as they pass through the rumen.

They have been successful in incorporating the high energy and encapsulation genes in alfalfa, and now plan to bring both genes through in ryegrass plants within the next two years. To ultimately test the efficacy of these new forages would require field assessment and animal nutritional studies.

After success in initial trials, the research holds great promise in offering farmers a power-packed high-energy forage, and significantly boosting value in the New Zealand dairy and beef industries.

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GOAL – TO HELP CREATE THE FUTURE MEAT INDUSTRY. AN EXAMPLE:

## SNP CHIP FAST TRACKS GENETIC GAIN IN SHEEP

The beginning of 2009 saw an international team including AgResearch scientists launch a new genomic tool that is set to transform the future selection and breeding of sheep around the world.

Called the Ovine SNP50 BeadChip, this cutting-edge technology enables researchers to scan DNA samples from breeding animals for some 50,000 genetic variants at once, rather than carrying out separate tests for each.

Characterising these variants, called single nucleotide polymorphisms (SNP), will help pinpoint small genetic differences associated with commercially important traits in sheep, and offer farmers a faster path to breeding superior animals.

As part of a Meat & Wool New Zealand and Ovitia initiative, AgResearch joined scientists from 16 countries in the International Sheep Genomics Consortium (ISGC) to produce this BeadChip.

The Consortium worked in partnership with San Diego-based Illumina Inc, to launch the Ovine SNP50 BeadChip and help research groups around the world identify DNA markers associated with commercially desirable traits.

AgResearch Senior Scientist John McEwan, who led the team that identified the majority of the

SNPs, says "The industry will now be able to more rapidly improve valuable traits like disease resistance, meat quality and maternal ability."

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GOAL – TO HELP CREATE THE FUTURE TEXTILE INDUSTRY. AN EXAMPLE:

## FIGHTING WOOL CARPET NASTIES – NATURALLY

An AgResearch-developed formulation offering eco-friendly insect protection for wool carpets has seen great success in industry trials.

Traditionally, carpet manufacturers have used the insecticide permethrin to control moths and beetles that ingest wool carpet. But, while this kills the insects, when it leaches into waterways from carpet factories it's also toxic to aquatic species in rivers.

In answer to calls from the international carpet industry for a green alternative, AgResearch Scientist Matthew Sunderland has developed an effective pest-control formulation that is biodegradable and insecticide-free, with very low aquatic toxicity. The project has been funded by Wool Research Inc and the Foundation for Research, Science and Technology.

The new generation solution has the added benefit of acting as a dye levelling agent, achieving even dye distribution without having to add extra chemicals.

In recent months, several large commercial runs have been completed, and two companies are signing up to commercialise the technology.

AgResearch Textile Science & Technology Section Manager Dr Peter Ingham says finding an environmentally acceptable wool treatment solution enhances the clean, green credentials of wool carpet.

"This is crucial in boosting the competitiveness of wool carpet internationally."

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GOAL – ENABLING CAPACITY FOR CHANGE IN AGRICULTURE AND ITS COMMUNITIES. AN EXAMPLE:

## UNDERSTANDING CLIMATE CHANGE

Climate change and greenhouse gas emissions are potentially topics of fear and the unknown for many farmers - but an AgResearch project is helping to change this through growing understanding.

The three-year project, 'Understanding Climate Change and Greenhouse Gas Emissions on Farms', aims to increase farmers' awareness and understanding to help them to make informed decisions on their farm systems and mitigation options.

AgResearch Senior Social Scientist Dr Margaret Brown and Senior Scientist Dr Robyn Dynes from the Agricultural Systems Section lead a team of scientists and farm consultants, working with ten farmer groups who will meet several times a year to assist in developing information for other farmers. The project is funded by the MAF Sustainable Farming Fund and the Pastoral Greenhouse Gas Research Consortium (PGGRC).

Rather than focusing on the causes of climate change, the project centres on what industry groups, and individual farmers can do about the consequences, presented as credible information in farmer-friendly language.

The information generated in the project will be delivered to the wider farming community through AgResearch's industry networks and groups including Meat & Wool New Zealand, Deer Industry NZ and DairyNZ.

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GOAL – TO HELP ACHIEVE A PESTILENCE-FREE NEW ZEALAND. AN EXAMPLE:

## BUSY YEAR FOR CLOVER ROOT WEEVIL BIOCONTROL

It's been a busy year for a breed of wasp brought to New Zealand to wage war on the clover root weevil, a major threat to farmers' forage clover.

As feed for stock, and through its ability to fix nitrogen in the soil, clover is critical to our farming systems and is estimated to contribute more than \$3 billion to the economy annually.

AgResearch scientists searched the world for an effective biocontrol measure for the clover root weevil (CRW), a clover-eating pest that began wreaking havoc in the North Island in 1996, before spreading into Nelson and Canterbury.

They discovered an Irish wasp that fitted the bill, attacking adult weevils, rendering females sterile, and breaking the life cycle.

After the initial 2006 releases in Hawke's Bay, Waikato and Manawatu, the wasp is showing good success as a biocontrol, and spreading well. Further releases have been made in Taranaki, Bay of Plenty, East Coast and Wairarapa.

In Northland, research has shown the local climate changes the way the wasp and weevil interact, slowing establishment and spread of the biocontrol.

AgResearch Scientist Dr Pip Gerard, who leads the North Island CRW programme, says another fungal-based biocontrol agent will be tested in spring, to possibly use alongside the wasp to fight CRW in Northland.

Pip has been working with DairyNZ, Meat & Wool New Zealand and Ravensdown field staff to distribute 2000 wasp 'giveaways' to North Island farmers. Farmers received a package solution to CRW: a vial of weevils infected with the wasps and backup information.

CRW biocontrol has been supported by DairyNZ and Meat & Wool New Zealand funding since 1997 with timely contributions from AGMARDT, underpinned by strategic research funded by the Foundation for Research, Science and Technology's Ecosystems Bioprotection programme. The focus now for North Island control will be on following up the releases, and advising farmers on management systems.


In the South Island, the weevil has spread from initial infestations near Nelson to Golden Bay and Marlborough, and is spreading around parts of North Canterbury, Christchurch and Ashburton. One CRW was recently found in Clinton, South Otago.

Established populations of the biocontrol agent, released in 2006/2007 in the Nelson area, are spreading quickly with the weevil. This should reduce the number of releases needed.

Led by AgResearch Scientist Dr Craig Phillips, the South Island strategy is to monitor this spread and respond by releasing the biocontrol agent at key locations. Mid-Canterbury is set for a release in spring 2009.

Craig and his team have been looking at alternative methods to avoid the pest spreading to new places or building up rapidly in places it has just reached. Funded by the Ecosystems Bioprotection programme, they have designed emergence devices, currently being tested in Golden Bay and North Canterbury, that release the biocontrol agent without releasing the weevil. If successful, they will develop smaller-scale devices for farmers, providing a weapon against the pest, without causing further spread.

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Clover root weevil (CRW) – one sign of the weevil's presence is apparent damage to leaves caused by the adult weevil, such as the large notch shown here. However, the telling damage is caused underground by the weevil larvae, which feed on the clover roots and stolons.

**GOAL – TO BE A FAVOURED EMPLOYER OF STAFF AND PROVIDE AN OUTSTANDING WORKING ENVIRONMENT THAT OPTIMISES STAFF ACHIEVEMENT. EXAMPLES BELOW:**

**GOAL – TO MEET HIGH STANDARDS OF ETHICAL, SOCIAL AND ENVIRONMENTAL RESPONSIBILITY. EXAMPLE BELOW:**

### **TOMORROWS LEADERS**

Launched in 2001, AgResearch's Tomorrows Leaders Programme aims to provide a framework for supporting succession planning into the organisation's leadership positions. Final projects for the fourth cohort who graduated in July included investigating AgResearch's project management practices, developing a model for assessing quality of science, evaluating continuous improvement of AgResearch operations; and exploring sustainability practices at AgResearch and other CRLs.

### **PAY AND EMPLOYMENT EQUITY REVIEW**

Commencing October 2008 AgResearch conducted a review of the company's performance in the areas of rewards, participation, respect and fairness. There was no evidence that employees in the same role are rewarded significantly differently on the basis of gender but planning is underway to implement staff-suggested changes to improve job satisfaction and to report by gender to ensure trends can be understood.

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### **THE CENTRE FOR REPRODUCTION AND GENOMICS**

World-leading research in human and animal reproduction and genomics is the aspiration for scientists at The Centre for Reproduction and Genomics, jointly built by AgResearch and the University of Otago at Invermay. Opened in December 2008, the \$15 million cutting-edge facility features designs to foster collaborative research, and to optimise the complementary skills and resources brought together under its roof.

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### **VIDEO CONFERENCING TRIMS TRAVEL AND EMISSIONS**

Upgrading to a high-spec video conferencing system has provided a cost effective, and emission-friendly means of cross-campus collaboration.

With AgResearch scientists spread across four campuses from Hamilton to Dunedin, getting together to plan and implement research has previously meant travel costs, downtime travelling and a growing carbon footprint.

In December 2008, AgResearch upgraded to a high definition video conference system, offering a transmission quality that is almost like being there. Each AgResearch campus has a studio facility, meeting room units and personal systems, all interconnected, and managed through a central process. Large dual screens allow publication-quality presentations to be made remotely.

As other organisations AgResearch works with embrace the technology, more external meetings will take place via video conferencing. AgResearch's appearance at a recent Education and Research Select Committee hearing via video conferencing was met with positive feedback by MPs.

AgResearch Chief Information Officer Dr Phillip Lindsay says the quality of the system has enabled a whole new series of interactions.

"And it's already had a significant impact on reducing AgResearch's travel and emissions."

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## **SOME OF OUR STAFF ACHIEVEMENTS 2008/2009**

#### **Animal Genomics Team**

**Dr Bryce Buddle**

Developing the Illumina ovine SNP chip

Appointed Fellow of the Royal Society of New Zealand and received the Hutton Medal

**Dr Jolon Dyer**

New Zealand Institute of Agricultural & Horticultural Science  
PGG Wrightson Seeds Significant Achievement Award

**Dr Neville Grace**

New Zealand Society of Animal Production  
Honorary Life Member

**Dr Allen Heath**

Companion of the Royal Society of New Zealand

**Dr Richard McDowell**

2008 M.L. Leamy Award (NZ Society of Soil Sciences)

**Dr Christina Moon, Dr Graeme Attwood and Team**

Successful application to the US Department of Energy's Joint Genome Institute to sequence the DNA of microbes from ruminant animals

**Dr David Scobie**

New Zealand Institute of Agricultural & Horticultural Science  
AGMARDT Technology Transfer Award for his work in promoting Low Cost Easy Care Sheep

**Dr Mairi Stewart**

Kudos award - Hamilton's premier Science award

**Dr Surinder Tandon**

Inaugural Product Innovation and Commercialisation Award, 86th Textile Institute World Conference

**Dr Phillip Lindsay**

Appointed to Hewlett-Packard's Global ESS Advisory Council



**JOHN McEWAN**  
Animal Genomics Team



**DR BRYCE BUDDLE**



**DR CHRISTINA MOON**



**DR GRAEME ATTWOOD**

GOAL – TO PROMOTE SCIENCE AND TECHNOLOGY TO THE PUBLIC. AN EXAMPLE:

## THE SCIENCE OF FASHION

Science met fashion in the AgResearch Designer Collection at the 2008 Air New Zealand Fashion Week – a runway show featuring new wool fabrics created by AgResearch Textiles Section scientists, in creations by some of the country's leading designers.

It was an outstanding opportunity to highlight AgResearch's world-leading scientific capabilities in textiles, and the great potential for wool.

The event was just one of many ways AgResearch's Corporate Affairs team has communicated the value of AgResearch and its science to a wide audience.

AgResearch Corporate Affairs Manager Allanah James says the show succeeded in significantly raising the public profile for AgResearch's textile capabilities and innovative wool fabrics.

"We aimed to create national and international publicity for the unique fabrics so we would capture the interest of textile manufacturers to partner with us to produce and market our clever fabrics commercially. The show led directly to enquiries from a number of companies from New Zealand and overseas who are interested in utilising the technology and fabrics."

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See the AgResearch Fashion Week Show at [www.agresearch.co.nz/fashionweek/](http://www.agresearch.co.nz/fashionweek/)



Designed by Jimmy D and made from AgResearch Textiles' revolutionary new 'next to skin' fabric created from NZ Merino wool. The lamb in this image has been recoloured green using Photoshop.

**GOAL – TO BE THE LEADING DEVELOPER AND SUPPLIER OF INNOVATIVE SOLUTIONS TO OUR CUSTOMERS IN NEW ZEALAND'S PASTORAL INDUSTRIES. EXAMPLES BELOW:**

## 2020 SCIENCE AIMS

2020 Science encapsulates the ambitious aims that AgResearch has to fulfill New Zealand's industry and community needs. Through feedback received from staff, industry and government representatives over the last year, AgResearch has refined its 2020 Science strategy and prioritised plans for future science.

AgResearch believes that its key goals for the future dairy, future meat and future textiles industries are robust and aligned with key industry needs. There is a whole value chain approach, starting with the farm as a whole system, through to value added off-farm and research to determine future industry directions. Environmental stewardship is interwoven with farm productivity and community interaction.

AgResearch has come a long way to set targets for research and development to the year 2020 and, with knowledge always growing, AgResearch will continue to develop 2020 Science as a living strategy to incorporate new information.

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## HORIZONS CONFERENCE: FOCUS ON AGRICULTURE'S FUTURE

Around 150 international and local industry leaders converged in Christchurch last October for one of Australasia's major science and agribusiness conferences, the Horizons in Livestock Sciences Conference, jointly hosted by AgResearch and Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO) Livestock Industries Division.

The conference was one of many continuing joint initiatives between the two organisations. The Horizons conference delegates focused on the contentious issue of 'The future of agriculture: value or volume?' Discussions included exploring alternative possible futures for trans-Tasman

livestock industries in light of increasing global concern about food security.

Another discussion examined how best to improve agricultural productivity, while reducing the impact of agriculture on the environment.

This was the fifth Horizons in Livestock Sciences conference, but the first held outside Australia.

## CLIENT SURVEY

Good customer relationships are critically important for AgResearch to get its science into practice. To help AgResearch identify how it can improve its service, each year the organisation surveys customers' perceptions of the service provided, and the relationship AgResearch has with clients.

In 2009, customers' opinions of AgResearch's service and the relationship they have with AgResearch showed marked improvements from the 2008 survey. The survey showed 69 per cent of respondents rated AgResearch's customer service as very good or excellent, compared to 52 per cent in the 2008 survey. One third of customers freely made reference to an improving relationship.

AgResearch feels these improvements reflect better communications and greater understanding on both sides.

This year, the most frequent suggestion as to how AgResearch can improve its performance and service delivery was directed at the timing of work and timing of delivery of project reports.

Other requested improvements were to develop partnerships, share ideas, to collaborate more; and to perform more joint strategic and post-project reviews.

AgResearch will focus on these issues as priorities in the coming months.

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## OUR YEAR IN A NUTSHELL

To hear more about AgResearch's 2009 year watch the short videos at [www.youtube.com/user/AgResearch/](http://www.youtube.com/user/AgResearch/)

**Sam Robinson**  
*Chairman*

– duration 1'06"

**Dr Andrew West**  
*Chief Executive*

– duration 3'21"

**Professor Warren McNabb**

*Science & Technology  
General Manager,  
Food & Textiles*

– duration 1'14"

**Peter Benfell**

*Science & Technology  
General Manager,  
Agriculture &  
Environment*

– duration 3'52"

**Dr Jimmy Suttie**

*Science & Technology  
General Manager,  
Applied Biotechnologies*

– duration 3'17"

**Dr Travis Glare**

*General Manager  
Science Strategy Services*

– duration 1'11"

**Dr Liz Wedderburn**

*Senior Scientist  
Rural Futures*

– duration 4'07"

**Geoff Balme**

*Chief Financial Officer*

– duration 1'56"

## GOAL – TO BE FINANCIALLY SUSTAINABLE

The 2009 financial year saw AgResearch pass the \$150m revenue milestone with revenue growing by \$6m (4%) to \$155m (2008: \$149m). Revenue from the Foundation of Research, Science and Technology and the Ministry of Research, Science and Technology increased by 5% to \$66m (2008: \$63m) while commercial revenue increased by 4% to \$73m (2008: \$70m) despite industry research funding cuts due to the global economic situation, levy reductions and waiting for the Primary Growth Partnership (and, prior to that, the Fast Forward Fund).

Operating margins have been low for several years as AgResearch has absorbed costs associated with new and improved facilities, increased science salaries and retained significant underfunded scientific capability to underpin our 2020 Science Strategy in readiness for anticipated new funding for pastoral sector research and development. This past year operating expenditure increased by only 2% to \$155m (2008: \$152m) and operating profit (revenue less operating expenditure) improved from a \$3m loss in 2008

to breakeven. However, finance costs and the absence of a gain from commercialisation activities (2008: \$8m) meant a net loss after tax of \$0.8m (2008: \$3m surplus).

Net operating cash flow was \$20m (2008: \$13m) and capital expenditure of \$19m (2008: \$15m) included The Centre for Reproduction and Genomics at Invermay and the conversion to dairy of the Tokanui Farm. With total assets of \$256m (2008: \$246m) and shareholders' equity of \$195m (2008: \$193m) AgResearch maintains a strong balance sheet.

An expectation of continued revenue growth, actions taken to reduce some unfunded and underfunded capability, a range of productivity improvement initiatives, increased capability funding and the prospect of Primary Growth Partnership funding now sees AgResearch projecting improved operating profitability and financial performance consistent with fiscal targets.

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## FINANCIAL PERFORMANCE INDICATORS

	Actual 09	Target 09	Actual 08
Total Operating Revenue \$k	155,113	155,807	149,289
Total Operating Expenditure \$k	155,213	158,515	152,301
EBIT \$k	(922)	(4,392)	4,247
NPAT \$k	(754)	(4,943)	3,049
Total Assets \$k	256,142	240,587	246,344
Value of Shareholders' Investment \$k	195,115	187,951	193,484

### AGRESEARCH BOARD OF DIRECTORS (CLOCKWISE FROM BACK LEFT):

Dr Andrew MacPherson  
Dr Jane Adams  
Graham Fraser  
Richard (Dick) Davison  
Sam Robinson (Chairman)  
Danny Chan  
Susan Huria  
Dr Robert Welch



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Farming, Food and Health. **First™**

*Te Ahuwhenua, Te Kai me te Whai Ora. Tuatahi*