



Agribusiness in Schools

DELIVERING AGRIBUSINESS TO NZ SECONDARY SCHOOLS



ANNUAL
QUALITY
REPORT

2021
Annual Report





Eight years delivering top results

THE AGRIBUSINESS IN SCHOOLS PROJECT BEGAN IN 2013 WHEN THE PROGRAMME WAS FIRST DEVELOPED AND TRIALLED AT ST PAUL'S - AND EIGHT YEARS ON IS BEING TAUGHT IN 97 SCHOOLS THROUGHOUT NZ.



In 2013, St Paul's designed and developed a pilot Agribusiness programme to encourage secondary school students, in their own school, to consider career pathways in the primary sector. The following year, the programme attracted 44 students across years 12 and 13.

In conjunction with developing the programme further, the School established an Agribusiness Advisory Group made up of key representatives from across the primary sector. This group continues to meet twice a year to advise the School on current industry trends to ensure the programme's content is relevant and sector driven. The School also formed relationships with a set of business partners to help fund the work they were undertaking.

As the numbers of students wanting to learn Agribusiness continued to grow at St Paul's, this led the School to successfully lobby Government and the Ministry of Education (MoE) to trial the Agribusiness pilot programme at 12 lead schools around the country before being accepted as achievement standards at NCEA levels 2 and 3. This was an incredible achievement,



Agribusiness is taught in 97 schools to more than 3000 students across New Zealand

given most achievement standards and NCEA course work is written by the MoE.

Along with business partners, DairyNZ, Beef+Lamb NZ, AGMARDT, Meat Industries Association, Gallagher, Rabobank, NZ National Fieldays, NZ Kiwifruit Growers Inc and Fairview Motors, St Paul's has made the Agribusiness programme available to 97 schools within New Zealand. These organisations continue to partner with the programme to reach their collective goal of having 100 schools and 3500 students enrolled in the programme by 2023.

Other sector partners including BNZ, Zoetis, Greenlea, Waikato Milking Systems, Waitomo Petroleum, AGrowQuip, Campbell Tyson and TetraPak were involved in the development of the agribusiness national curriculum.

As the Agribusiness programme completes its eighth year, the primary sector is starting to see young graduates from the programme entering the workforce and providing the rural sector with well-qualified and capable young people. ■



Pioneer students of Agribusiness enter the workforce

Maggie Powell CAME FROM THE HIGH RISES OF HONG KONG TO AUCKLAND AS A FOUR-YEAR-OLD WHEN HER PARENTS MOVED TO NEW ZEALAND'S LARGEST CITY. NOW THE AGRIBUSINESS GRADUATE WORKS FOR AN INDUSTRY TAKING ITS PRODUCTS TO THE WORLD INCLUDING HONG KONG, AND CHINA WHICH ARE SOME OF ITS BIGGEST MARKETS.

While she didn't have a background in agriculture, Maggie says she was introduced to the industry after studying Agribusiness from Year 12 at St Paul's Collegiate School. It was here she was also inspired to forge a career in New Zealand's primary industries.

She is now part of the Silver Fern Farms Graduate Career Programme.

"I was born in Hong Kong and my parents moved back to Auckland when I was four. I had always dreamed of being a doctor or a lawyer but then I discovered chemistry wasn't my strong point."

Maggie, who enjoyed business subjects at high school, was encouraged to consider studying Agribusiness at St Paul's and she says, "something clicked".

"It wasn't an obvious choice for me, but through the course I discovered the vast opportunities offered by the industry," says Maggie.

After she graduated from high school, she went on to study at Massey University in Palmerston North, and did a Bachelor of Agri-commerce, majoring in International Business.

She started her role on the Graduate Career Programme at Silver Fern Farms in 2021. The company exports to 60 countries worldwide. It employs about 7,000 people at the peak of its season, across 14 processing sites and four office hubs throughout New Zealand.

Maggie is currently based in Dunedin in the marketing team with a focus on brand development for New Zealand and global markets, but her role in the Graduate Career Programme will see her gain experience in a variety of roles.

"I think it will be a really interesting industry over the next few years. I'm already learning so much. My job involves looking at trends in the market and positioning products as red meat that's good for you," says Maggie.

She says the emergence of Covid-19 has meant people have really started to look at their diets.

"The red meat market has come under a lot of pressure as there is a real push towards plant-based eating but there is also a real opportunity to support local," says Maggie.

Maggie had no idea where a career in agribusiness could take her before studying at St Paul's.

"Being raised in the city I think you often learn all the negative things about the agriculture industry. I was totally oblivious to it, I don't think I could have told you how milk was made," Maggie laughs.

She believes people's understanding is slowly changing however and now

young people coming into the industry had real drive to make a difference.

Where once agriculture may have been considered a course with easy credits, Maggie says it is now attracting students that are top in class in business subjects and top in class in science. ■

" Studying at St Paul's I saw the passion the teachers had, and many of them came from agriculture backgrounds. I realised this is so much greater than growing grass and grazing animals, this is actually someone's livelihood, says Maggie.



Maggie Powell at work

Hugh Jackson FIRST STUDIED AGRIBUSINESS IN HIGH SCHOOL IN 2015 AS A YEAR 12 STUDENT WHEN THE SUBJECT WAS STILL IN ITS INFANCY. AS A YEAR 13 STUDENT, HE WAS A MEMBER OF THE GROUP WHO WON THE 2016 FIELDAYS YOUNG INVENTOR OF THE YEAR FOR A PROJECT THEY HAD TO DESIGN IN THEIR AGRIBUSINESS CLASS.

It was the first time Hugh and the group of 17-year-olds had invented anything, but their post hole borer holder, that attached to a trailer or motorbike to assist a single person to bore holes, attracted great interest from Fieldays attendees.

"I really enjoyed the opportunity to design an agribusiness product and develop the concept through to prototype and present at the National Fieldays," says Hugh. "The Agribusiness programme really encouraged us to be innovative."

Hugh continued his study to tertiary level graduating with a Bachelor of AgriCommerce at Massey University, majoring in Farm Management and is now working at DairyNZ as an Extension Partner for the mid-Canterbury region.

"A big part of my role is to help farmers through change. I also share the latest research and development produced by DairyNZ and facilitate discussion groups with farmers, enabling them to learn from each other."

Hugh loves networking and developing relationships with farmers.

Hugh Jackson



"I am constantly learning from them and hope too, that I am helping them be better at what they do."

Hugh attributes studying Agribusiness at secondary school level to igniting his career in the dairy sector.

"The programme definitely exposed me to the career opportunities available to us and what type of work is on offer in the primary sector," says Hugh. ■

Libby Main SPENDS HER DAYS FOUR-WHEEL-DRIVING ACROSS THE HOKITIKA RIVER IN WESTLAND TAKING WATER SAMPLES, OR SPEAKING WITH LOCAL IWI, COUNCILS OR THE DEPARTMENT OF CONSERVATION AND FISH AND GAME.

They're not the type of jobs that immediately spring to mind when you think about a career in Agribusiness.

The 24-year-old is an environmental technician at Westland Milk Products and is about to take on a new role as an Irrigation Technician with Fonterra, at their Hautapu operation, just outside of Cambridge in the Waikato.

While Libby grew up on a 350-hectare dairy farm in the South Waikato, she says it wasn't until she started studying Agribusiness at St Paul's Collegiate School, that she grasped the breadth of career opportunities available in the New Zealand agriculture industry.

"I think people still view a career in agriculture as one where you are working on a farm every day, but the truth is there is so much more to it than just running a farm. There are so many support industries that need skilled workers," says Libby.

Libby was one of the first cohort to study Agribusiness at St Paul's, when the course was first trialed in 2014.

"I knew that agriculture was my passion but the course at St Paul's gave me confidence that the industry was wider than working on a farm and it helped to show me there were good opportunities and career paths to follow."

When Libby graduated from St Paul's she went on to study at Lincoln University completing a Diploma in Applied Science (Agriculture) followed by a Bachelor of Environmental Management.

During her second year she took an elective paper on water quality, and says she knew that was how she wanted to make her impact.

"It was while I was at university I discovered I really enjoyed the study of water quality and I knew that was the direction I wanted my career to go," says Libby.

The variation in her day from heading out on site collecting water samples, to advising the executive management team on resource consents or new environmental legislation, is what she enjoys most about her job.

"I have the ability to plan my own day. I can break up the desk work with on-site jobs at my own discretion. I think the most surprising thing I have discovered since working is how short the industry is of highly skilled staff to do this work," says Libby.

While she still considers herself early in her career, Libby thinks she would eventually like to move closer to working directly with farmers to help them improve their environmental management. ■



Libby Main



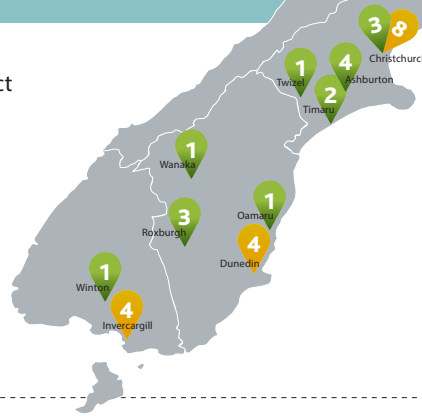
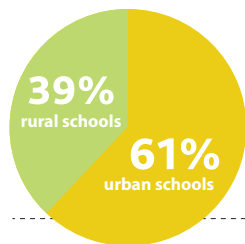
Agribusiness in Schools

DELIVERING AGRIBUSINESS TO NZ SECONDARY SCHOOLS

IN 2014 WE RECOGNISED
THE NEED TO ESTABLISH A FORMAL AGRIBUSINESS PROGRAMME, WITH A GREATER VISION; TO TAKE OUR PROGRAMME INTO SCHOOLS RIGHT THROUGHOUT NEW ZEALAND. THE SUCCESS OF THE PROGRAMME IS EVIDENT TODAY.



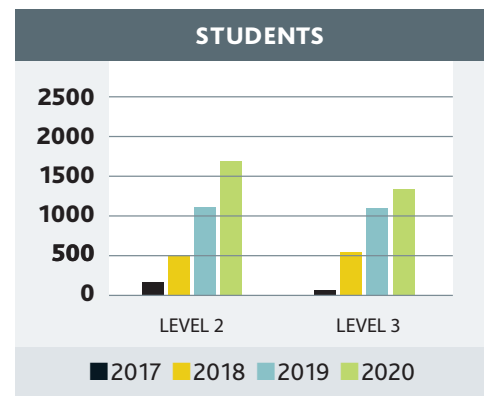
97 Agribusiness is now a key subject option in 97 New Zealand schools.



1 Whangarei	2 Rotorua	1 Wellington
1 Maungaturotu	1 Otorohanga	1 Blenheim
1 Helensville	1 Taumarunui	1 Nelson
14 Auckland	1 New Plymouth	3 Christchurch
1 Pukekohe	1 Hawera	8 Christchurch
1 Ngatea	1 Whanganui	4 Ashburton
1 Katikati	2 Marton	2 Timaru
1 Tauranga	1 Feilding	1 Twizel
3 Tauranga	4 Palmerston North	1 Wanaka
1 Te Puke	1 Gisborne	1 Oamaru
1 Morrinsville	4 Napier	3 Roxburgh
7 Hamilton	1 Napier	4 Dunedin
2 Cambridge	2 Masterton	1 Winton
1 Putaruru	4 Wellington	4 Invercargill

The numbers of students learning and schools teaching Agribusiness have consistently increased over the last four years.

YEAR	LEVEL 2 STUDENTS (YEAR 12)	LEVEL 3 STUDENTS (YEAR 13)
2017	173	87
2018	529	570
2019	1121	1120
2020	1728	1329



***Unit standards and achievement standards** are two types of assessments schools use to assess student knowledge. Both standards specify what a candidate needs to know, do, and understand.

Unit standards are competency based and usually vocational based assessment, developed by the relevant industry training organisations such as the Primary ITO. Schools need to be accredited to assess unit standards by the relevant industry training organisation. There are just two grades; Achieved (A) for meeting the criteria of the standard and Not achieved (N) if a student does not meet the criteria of the standard.

Achievement standards are based on assessing New Zealand curriculum developed by the Ministry of Education. Achievement standards are measured by four grades; Achieved (A) for a satisfactory performance, Merit (M) for very good performance, Excellence (E) for outstanding performance, and Not achieved (N) if students do not meet the criteria of the standard.

Partnering with secondary schools in New Zealand to teach Agribusiness



St Paul's COLLEGIATE SCHOOL



Profitability. Sustainability. Competitiveness.





LEVEL 2
67
SCHOOLS

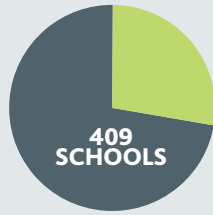
67 schools taught Level 2 Agribusiness achievement standards* (as at 2020)



LEVEL 3
65
SCHOOLS

65 schools taught Level 3 Agribusiness achievement standards* (as at 2020)

409
SCHOOLS



409 schools are teaching some form of primary sector education (Agricultural and Horticultural Science or Agribusiness either unit standards* or achievement standards*).



61% URBAN



39% RURAL

61% of secondary schools teaching Agribusiness are urban and **39%** are rural.

6645

6645 students have studied Agribusiness over the last four years



506
TEACHERS

506 teachers have attended Agribusiness conferences, professional development sessions, pre-service training or training placements.

ACHIEVEMENTS

AGRIBUSINESS PROGRAMME WINS AT BIOSECURITY AWARDS

The Agribusiness in Schools programme was recognised for its outstanding contribution to protecting New Zealand's environment from pests and diseases.

The project team won the inaugural kura/school award in the Ministry for Primary Industries' 2020 New Zealand Biosecurity Awards held on 16 November, thanks to a new unit of work written to help New Zealand students better understand

biosecurity within NCEA Level 3 Agribusiness.

The achievement standard, which has been made available to all New Zealand secondary schools as part of the agribusiness subject, covers the impacts of biosecurity on the primary industry and the types of practices in place, while allowing students to come up with their own innovative future proofing ideas.



From left St Paul's Associate Headmaster Ainsley Robson, Deputy General Biosecurity New Zealand Penny Nelson, Agribusiness Project Curriculum Director Kerry Allen and Agribusiness Advisor Melanie Simmons.





Agribusiness offers diverse future career prospects

Agribusiness students at Hamilton Boys' High School are proving the subject's appeal to students from diverse backgrounds, with most of the students coming from urban based families or Māori, Pacifica, Chinese and Indian communities.

The subject is in its second year of being offered at Hamilton Boys' High School and teacher Leeann Morgan says it is growing in popularity, particularly with urban-based students. In 2020 the school started with one Year 12 class of 28 boys, but by 2022 that number is expected to grow to 70 students, split equally across Years 12 and 13.

Fifty two percent of students taking the subject are from urban backgrounds, while 34 percent come from rural backgrounds and 14 percent of students from lifestyle blocks.

Leeann says the focus for her class is always getting around the preconceived ideas people might have about Agribusiness.

"When you say Agribusiness people can sometimes switch off or they think it's just to do with traditional milk and meat products. I prefer to focus on how, in New Zealand, we're the best food producers in the world and what high profile brands students might be able to work with in the future."

It's a slightly different way of teaching, but one which Leeann says attracts students that have never been to a farm or in a milking shed.

While the school is one of the later adopters of the subject, Leeann's creative teaching methods are expanding the boys' horizons to the career opportunities available in New Zealand's primary industry.

"I always use food as the context for teaching Agribusiness because everyone can relate back to food. But I emphasise that you don't have to be at the beginning of the value chain or working on a farm to be working in the primary industry," says Leeann.

While Leeann grew up on a sheep and beef farm in Northland, working on the farm was not in her plan and she chose teaching instead. She was an economics and science teacher.

Taking on teaching the new subject, she completed a Postgraduate Diploma in Agribusiness from the University of Waikato under Dr Jacqueline Rowarth. She says Dr Rowarth's teaching style is grounded in real world examples and involves

learning from lots of guest speakers, which has heavily influenced Leeann's own personal teaching style.

At the start of every class Leeann introduces her students to a different type of product produced by New Zealand's primary industry, from Blue Frog Cereal to Whittaker's Chocolate and red kiwifruit.



"With the kiwifruit we talked about how scientists come up with thousands of options for products every year, but the question is always whether they will be commercially viable. We talked about what

a red kiwifruit should taste like and how much research went into that," says Leeann.

"When you're talking about a \$2.9 billion industry you don't want to be getting the flavour wrong."

As Heartland Potato Chips released a new flavour the boys were asked which flavours they would choose for their families.

"We have found the urban students are really savvy around consumer brands and they will be making decisions about what food to buy for the rest of their lives. The course is giving them in-depth knowledge and offering real value there too," says Leeann.

The diversity of her classes means she is always learning alongside the boys.

"I spent 17 years on a sheep and beef farm, and I know very little about dairying. We always make sure we have an honest and open conversation where there are no 'silly' questions. I also know the boys in the class who do come from dairy farms, so they help me out if I get stuck," says Leeann.

"Ultimately though, agribusiness is all about food. And who doesn't love food?" ■



Terry Copeland from Federated Farmers talking to the Hamilton Boys' High School's agribusiness class

Teaching the teachers about Agribusiness

IN HER ROLE AS NATIONAL AGRIBUSINESS SUBJECT ADVISOR, MELANIE SIMMONS THRIVES ON INSTILLING A PASSION FOR THE PRIMARY INDUSTRY IN BOTH TEACHERS AND STUDENTS THROUGHOUT NEW ZEALAND.

Based at St Paul's Collegiate School, Melanie has been in the role since 2018, working as the National Advisor for the Agribusiness subject.

Melanie's involvement with the subject stretches back to its very beginning.

She was one of a collective of teachers from eight schools throughout New Zealand, enlisted to collaborate and write a suite of achievement standards which would provide teaching and learning across all eight primary sectors and their entire value chains.

Once developed, Melanie taught the new subject at Feilding High School and when the role of National Agribusiness Subject Advisor, based at St Paul's was advertised, she says she jumped at the chance.

She believes being a teacher has given her credibility in the role because of the close contact, connection, and relationships she needs to form with teachers. It has also helped in encouraging schools to introduce the subject.

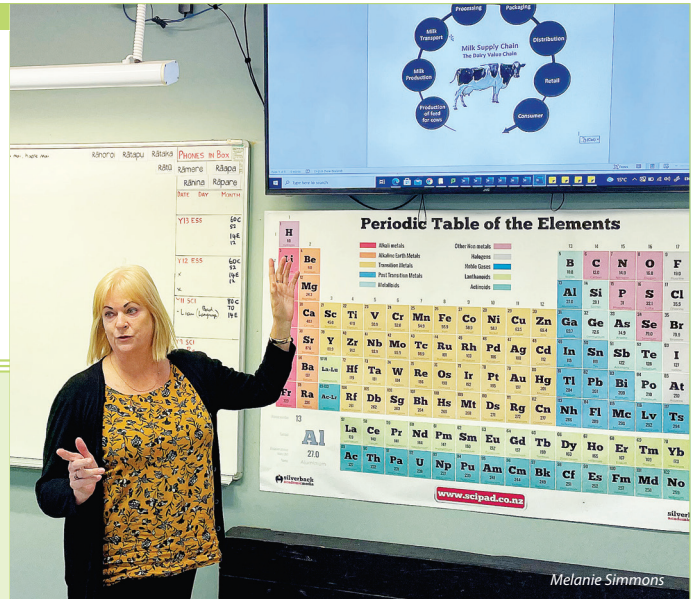
Last year Agribusiness was taught in 97 school across New Zealand catering to 3057 students, while in 2019 there were 93 schools teaching Agribusiness to 2500 students.

Around 60 percent of the schools are urban based.

"What that tells us is that while there was only an increase of four schools there was an increase in nearly 600 students, which means the subject is growing in those schools that are offering it," says Melanie.

Her weeks are spent between visiting schools to encourage them to teach the course, answering the phone to teachers, often working in the classroom, who have questions from students on the spot, to moderating assessments or presenting at and attending industry events.

Traditionally there has been a real lack of understanding of career pathways in the primary sector and it hasn't been viewed as a high skilled qualification. People think it's working on a dairy farm, 4am starts and polluting the environment, that's the perception we're fighting against. says Melanie.



Melanie Simmons

"They don't think of working in Germany doing a marketing programme for Brancott Estate Wines or writing code for Fonterra to put electronic billboards up across Tokyo in Japan, but that's also working in the primary sector," says Melanie.

The multidisciplinary course covers everything from business and economics through to technology and the sciences. Students who are pursuing careers in Agribusiness are doing extremely well with starting salaries between \$60,000 to \$70,000, and sometimes a car, phone, laptop, and a fuel card, says Melanie.

"There is still this idea you need to be a doctor or a lawyer to do well but they certainly aren't the only career pathways," says Melanie.

These perceptions are why she works so hard to capture both teachers and students across New Zealand and facilitate real world learning in the classrooms teaching Agribusiness.

She uses her Agribusiness class at St Paul's as a testing ground of sorts, a place where she can try out innovative curriculum ideas and approaches before introducing them to other schools.

"If we're teaching about the cashflow forecasts of a prawn farm we get them eating prawns, talking about where they came from, and can we produce them in New Zealand? Students leave the classroom invigorated and more than that they're also saying, 'we just had a mean feed in Agribusiness!'"

It's moments like these that are the reason she does the job. ■





Students back New Zealand's wool industry

AGRIBUSINESS STUDENTS AT DUNEDIN'S KAVANAGH COLLEGE ARE ON A MISSION TO SUPPORT THE NEW ZEALAND WOOL INDUSTRY ONE 'BAAAAL' AT A TIME, WHILE REDUCING INJURIES FROM FINGERS JAMMED IN DOORS IN THE PROCESS.

The The Woolly Wedge, a door stop made from New Zealand wool carpet offcuts, has been developed by students in teacher Jill Armstrong's Agribusiness class. The innovative wedges have been flying out the door of Dunedin's Mitre10 since the store began stocking them.

The students' business, Under the Door Enterprises, was born as part of the Agribusiness subject at Kavanagh College. Agribusiness NCEA achievement standards require students to develop an innovative sustainable business, but Jill says her students wanted to go one better, so they created Under the Door Enterprises.

"The Agribusiness course is really diverse. It covers the entire value chain from paddock to plate. After listening to experts from the wool industry, the students were really taken with the idea of developing a product that would support and promote New Zealand wool," says Jill.

The students designed the woolly wedge themselves to solve the problems of doors



slamming and people getting their fingers jammed. The doorstep is covered on one side in New Zealand wool, using carpet offcuts, with the other side covered in rubber. A recycled wood offcut creates the wedge shape between them.

It was while validating their business as part of the Young Enterprise programme and testing the market with customers at Mitre10 Dunedin, that they struck up a relationship with the Group Chief Executive of Mitre10 MEGA Dunedin and Mosgiel, Neil Finn-House.

"We chose Mitre10 to do our product validation never thinking our product would eventually be stocked there," says Agribusiness student and Under the Door Enterprises

Chief Executive Hayley Anderson. "Mitre10 Dunedin have purchased 2,000 units so far."

Buoyed by their success, the team has already diversified their exciting product range.

"It's amazing what these students have achieved, and it's all been their doing. They have so much support from the community as it's incredible what skills they've developed," says Jill.

The journey has seen Under the Door Enterprises become members of Business South, gain the backing of Federated Farmers, become official supporters of the Campaign for Wool. And they give 10% from all their sales to FarmStrong, rural wellbeing advocates supporting farmers' mental health.

"It's always been important to us to meet what we expect socially, to be sustainable and innovative and making sure that we are giving back," says Hayley.

The Year 13 student plans to go on to study Agriculture Innovation at Otago University next year.

"It's amazing. I couldn't imagine doing anything else now. Agribusiness has really opened my eyes to the opportunities that are available if you go looking for them," says Hayley.

The class is now waiting to see if it reaches the finals of the Young Enterprise competition with the business.

Jill who has a background in teaching economics and accounting says the Agribusiness course has made teaching fun and enjoyable.

"It's a real boost because you see these kids developing amazing skills and knowledge in a really meaningful context. It's the most innovative, creative and future-focused subject I have seen developed in my 25 years of teaching," says Jill. ■



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