

# **Establishment of Horticultural Science scholarships at the University of Sydney**

The University of Sydney

Project Number: HG06025

## HG06025

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**HG06025**

**“Establishment of Horticultural Science Scholarships at the  
University of Sydney”  
(May 2012)**



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### **Project HG06025**

Establishment of Horticultural Science Scholarships at the University of Sydney  
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May 2012

This project was funded with a voluntary contribution from the Faculty of Agriculture and Environment bequest fund (there were also donations from Applied Horticultural Research and The Lynch Group Pty Ltd) and by Horticulture Australia Ltd. This project aimed to collect information on student intakes into the Bachelor of Horticultural Science at the University of Sydney and to provide Scholarships as an incentive for enrolment. New resources (web page design and information) for promoting the degrees at the University of Sydney were also developed. All these activities were aimed at increasing the numbers of trained new people entering the horticulture industry.

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### **Key Components of the project**

Currently the number of trained people leaving University for the horticultural sector is declining with enrolments in Horticultural Science degrees around Australia having declined by 50% between 1998 and 2002. This project aimed to counter that trend by providing entry-level scholarships and by a promotional campaign that focused on the "good news" stories of the industry. The market research that was done by the faculty identified that the website was the most important information portal for prospective students. The website needed an upgrade to meet the expectations of Gen Y who like specific text and easy navigation.

### **Significance**

Attracting a young audience into the horticulture/agricultural sector remains a challenge. This is a global trend influenced by many large-scale factors such as educational investment, policy, media and the employment market for graduates. The project has added to the market intelligence on student aspirations and desires. In particular it has assisted understanding of appropriate and appealing language and communication methods for the target audience. Together with these factors, scholarships remain an important and attractive motivator to study.

### **Key Outcomes**

- Creation of scholarships to attract and support students
- Market research, identified key elements including stakeholder interest, aspiration, motivations to study, cooperate perception and key messages.
- Website project, addresses the information, navigation, style and language used on the Faculty of Agriculture and Environment website.
- Measurement of website

### **Conclusions**

The market research funded by this project showed that electronic communication is the preferred mode of message delivery amongst young audiences. Furthermore, 95% of enrolled students in the Faculty would like to be kept informed about updates and events through electronic communication. Metrics of the Faculty website show considerable spikes during times of entry and enrolment, indicating that future and current students all use the website as a "one stop shop" for information.

It is also important to consider that websites are often the most cost effective mode of communication and marketing. In comparison to print or advertising placement, websites offer value for money, with around \$100 per 1000 webpage views. They are also easy to maintain and provide ongoing metrics capabilities. The redevelopment of the website was underpinned by a larger marketing strategy aimed at updating the Faculty's image and connecting with potential new students. An online presence was a cornerstone of this strategy.

### **Recommendations for future R&D**

An expansion of the online experience through the use of social media would be an area for future research. Social media gained prominence during the period of this project but was not included specifically in this study.

With regard to scholarships, a survey of scholarship offerings across the sector and beyond is highly recommended. Also highly recommended is the development of an online one-stop shop collating scholarships in an easy place for applicants to access information and apply.

### **Recommendations for practical application**

The main recommendations are:

- An online presence is a necessity.
- Initial financial and time investment offers considerable benefits when done strategically.
- Market research offers beneficial insights into key markets and communication methods.
- Non topic-specific scholarships either targeted at high achieving students or those addressing financial disadvantage attract the most applicants.

## Introduction

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The future of sustainable horticulture in Australia depends on training a pool of skilled graduates. Currently the number of trained people leaving University for the horticultural sector is declining with enrolments in Horticultural Science degrees around Australia having declined by 50% between 1998 and 2002. It is also important to note that 65% of employers in a recent survey said that they experienced difficulty finding suitable people for positions within the Horticultural industry (HAL Project AH 02021).

This project aimed to counter that trend by providing entry level scholarships and by a promotional campaign that focused on the "good news" stories of the industry.

The entry-level scholarships were designed to attract high-quality students to the degree. They were awarded to students with appropriate ATAR entry scores and a demonstrated interest in the horticulture industry. Over the course of this project however the Faculty of Agriculture and Environment decided that it was no longer viable to offer a Bachelor of Horticultural Science (last enrolment intake was 2009) and instead would offer horticulture subjects as part of the Bachelor of Science in Agriculture degree. This meant that entry level scholarships were only offered for 2 years of the project and in 2012 were then offered to fourth year students taking horticulture subjects.

The market research that was done by the faculty identified that the website was the most important information portal for prospective students. The website needed an upgrade to meet the expectations of Gen Y who like specific text and easy navigation. This project helped upgrade the Faculty's website to ensure the message about studying horticulture and plants got out to a new audience.

The aims outlined in the proposal for this project were not completely fulfilled as a result of the change of the degree structure at the University of Sydney and the results of the market research saying that web promotion was more effective than print media. These changes have meant that the strategy to attract new students changed but the goal remained the same.

## Scholarships Awarded

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### Scholarships for 2008

In 2008 during the period that involved setting of cut-offs for degrees and making offers to students for the main entry round in January 2008 the student advisor at the time, Michele Gairn was asked by the Acting Dean, Alex McBratney, to contact the higher UAI students to advise them that the Faculty had scholarships available and suggest that they should apply as they would be in strong contention for the awards. These students were sent scholarship application forms and asked to complete them and send them to the Faculty.

As a result of that process five Horticultural Science applicants with University Admission Index marks (UAI's) over 80 were contacted.

The Horticulture students were:

1. Isabela Gustowski, UAI 87.4 (3<sup>rd</sup> pref)
2. Claire Fernandez, UAI 87.18 (first pref)
3. Jasmin Baker, UAI 82.55 (first pref)
4. Isabella Cseti-Wall, UAI 81.25 (first pref)
5. Sebastian Campbell (UAI 91.45) (first preference)

The Faculty subsequently offered two horticulture scholarships. The details are as follows:

- Sebastian Campbell (UAI 91.45) HAL Merit Scholarship (\$4,000pa for 4 years).
- Isabelle Cseti-Wall (UAI 81.3) Lynch Scholarship (\$3,000pa for 2 years).

In the end only Sebastian Campbell accepted the scholarship offered. Isabelle Cseti-Wall did not enrol in Horticulture but enrolled in an Art/Science Degree instead.

Sebastian was awarded the Horticulture Australia Ltd (HAL) Merit Scholarship and Lynch Scholarship which is valued at \$4,000 p.a for 4 years.



Jenny Jobling, Sebastian Campbell, Andrea Vicic at the Faculty Scholars Reception April 2008.

## Scholarships 2009

In 2009, the Faculty enrolled two year 1 Bachelor of Horticultural Science students with UAI's over 80. They were Jasmin Baker (82.55 in 2007 HSC) and Rebekah Niall (88.1). These students were awarded scholarships of \$4,000 p.a for the 4 years of their degree.

Jasmin Baker received the Horticulture Australia Ltd (HAL) and Applied Horticultural Research Merit Scholarship. Rebekah Niall received the Horticulture Australia (Ltd) (HAL) and the Lynch Group Merit Scholarship. Both scholarships were presented at the 2009 Scholars Reception at the University of Sydney on the 8<sup>th</sup> April 2009.



Rebekah Niall (left) photo 1 and Jasmin Baker (left) photo 2 with the Chancellor Her Excellency Professor Marie Bashir AC CVO at the Scholars Reception 2009.

## New degree Structure for 2010

In 2010, the Faculty of Agriculture and Environment changed the degree structure. The main changes to the degrees offered for 2010 were that:

- The Horticulture degree would not be offered as a separate degree.
- However students would be able to study horticulture as a major and would graduate with Bachelor of Science in Agriculture.
- Students who enrolled in Horticulture in 2009 and in previous years would continue and graduate with BHort Sc.
- The Faculty continues to value the support of the horticultural industry
- The Faculty will offer a new degree called a Bachelor of Environmental Systems to cover the major topical issues of carbon, water, food.

These changes were discussed with the voluntary contribution partners, The Lynch Group and Applied Horticultural Research and both partners decided that they did not see the value in supporting the Horticulture Scholarships initiative anymore. As a result the Faculty bequest fund paid the total voluntary contribution commitment from 2010 onwards.

As a consequence of these changes no first year scholarships were awarded for 2010. It was proposed that we should offer a scholarship to students who chose horticulture in their 3<sup>rd</sup> year of the new Bachelor of Science in Agriculture and Bachelor of Environmental Systems



degrees. The aim was to encourage students to consider Horticulture as a career at the end of their degree.

In 2010 and 2011, the focus of the project was on upgrading and delivering the new website. Scholarships were paid to the remaining continuing Bachelor of Horticultural Science scholarship holders.

### Scholarships 2012

In 2012, one-year \$4,000 scholarships were awarded to three fourth year students who were conducting horticulture projects for their honours year project. The recipients were: Emily Tubb, Jennifer Shillabeer and Rebekah Niall. All three recipients have had an on-going interest in horticulture throughout their degree completing professional experience in the industry including at a berry farm, the Botanic Gardens and at a plant nursery. They have also expressed interest in continuing in the industry once their studies are complete. Jennifer's project is looking at integrated pest management in horticulture crops, Rebekah is investigating aspects of the flowering in waratahs and Emily is investigating a disease of baby spinach.



*Emily Tubb (left photo) and Jennifer Shillabeer (right photo) received their scholarship certificates from the Chancellor, Her Excellency, Professor Marie Bashir AC CVO at the annual Scholars Reception on 4 May 2012.*

One of the initial horticulture scholarship recipients, Sebastian Campbell completed his studies in 2011 and graduated in 2012 achieving excellent results including the award of the University Medal. At the date of the report, he is currently employed as a tutor within the Faculty.

## Scholarship Findings

The Faculty has received an increasing number of requests for scholarships by students in second, third and fourth years i.e. not entering university for the first time. There has also been an increase in scholarships offered by other organisations for example, Woolworths, Rural Industries Research and Development Corporation (RIRDC) and the Royal Agricultural Society. The scholarship offerings in these examples do not specify a degree course but offer exposure to industry in the case of the Woolworths scholarship or other services and benefits in the case of RIRDC.

Regular feedback has also been received from prospective students about the lack of one place to find information about the availability of scholarships. For example, the Universities Admission Centre (UAC) website is often used as a starting point for course information and then students go on to get detailed information from the institution of their choice. As far as the authors are aware, there is no similar resource for the advertising of scholarships.

The University of Sydney Scholarship Office recommends that the criteria for new undergraduate scholarships be as broad as possible with few specialist criteria while maintaining an academic minimum standard requirement. The University Entry Scholarships are awarded at \$6,000 per year while the Faculty Merit Scholarships are awarded at \$8,000 per year. Hence by the end of this project, the \$4,000 per year scholarship offered may not have been competitive.

One area that is lacking in scholarships but with some demand is for international students. International students find that Sydney is a very expensive city in which to live and the number of scholarships available to international students is very small. It is understandable that there may be some reluctance to provide international scholarships because the knowledge and learning “goes home” and therefore doesn’t benefit the local industry. However, given increasing globalisation and the fact that horticulture is a major export industry for Australia then perhaps this is an avenue that could be explored.

Other options for scholarships that could be explored are postgraduate students, mature age students, substantial prizes for excellent work, and disadvantaged and rural students. The Faculty is now in its second year of the Rural Sustainability Scholarships which are offered to rural and regional students who may be financially disadvantaged. These scholarships can be paired with the residential colleges and taken as residential bursaries. Finding a place to live and paying for it, is often one of the biggest hurdles to studying in Sydney. These scholarships have seen an excellent acceptance rate and have been utilised by students from across all four of the Faculty’s degree programs.



## Market Research

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In 2008 the Faculty of Agriculture, Food and Natural Resources commissioned a market research company called Pollinate to look at the Faculty and its enrolments and provide information on how to improve the Faculty's position in the marketplace. The results from this report are confidential although the following summary highlights the main issues for the faculty identified in the Pollinate report.

- Enrolments into tertiary education in areas of agriculture, horticulture have declined globally over the last 5-8 years. Market research has shown that there are strong misconceptions of “agriculture” amongst the general public, in particular young audiences.
- Agriculture in the media over the last 2-5 years has often been cast in a negative light, in particular the adverse effects of drought on the Australian agriculture industry, genetically modified crops and climate change. This has led to a growing misunderstanding and disconnect between prospective students and the uptake of agricultural science at tertiary level.
- However, there is a growing interest among prospective audiences in the “green” career areas such as plant science, environmental science and natural resource management. This serves to illustrate further the change in language used amongst prospective students from “agriculture” to “environmental”.

These results highlighted the vital need to address marketing and communication strategies that present accurate information about agriculture/environmental science in a way that

- Is easy to understand
- Relates to audience desires and aspirations
- Uses interactive or new media to deliver the message
- Using appropriate language and tone of voice

As a result of this research the Faculty made its core communications objectives;

1. To raise the profile of ‘agriculture’ within the community; shifting often outdated perceptions to a more accurate/current picture, that agriculture plays a critical role in modern living and sits at the cutting edge of scientific research and economics.
2. To increase recruitment by improving perceptions of the Faculty within the student demographic. For example, overseas students might be put off by a preconception that they will be trained to become a farmer. The reality of course is very different – a facility such as the Plant Breeding Institute would evidence that.

### Media Release Oct 2007

#### **Faculty of Agriculture, Food and Natural Resources**

##### Demand for Agriculture and Natural Resources Science Graduates

This research note has been undertaken by the University of Sydney's Faculty of Agriculture, Food and Natural Resources to outline the current and future landscape for graduate employment in the Australian agribusiness and NRM sector.

#### **Methods**

The research note was conducted via desk research which examined current literature plus interviews with agriculture recruitment firms, agriculture employers and key influencers in Australia's agriculture and NRM sector.

#### **Overview**

The high tech nature of Australia's farming sector means that the need for higher levels of skills and training within the agricultural workforce is becoming more and more important. The days of the agricultural workforce being low-skilled are long gone.

Australia's agricultural sector is facing seismic challenges from climate change, the drive to sustainability and the corrosive effects of the country's skills shortage. While the agri-sector is a major contributor to the Australian economy, it is also one of the country's largest emitters of greenhouse gases. Some see this is a threat, but it is also one of the sector's major opportunities, in that the managers and custodians of Australia's farms and rangelands are at the forefront of creating carbon abatement opportunities.

As such, climate change will pose an increasing complex landscape for the sector, both from an operational and regulatory standpoint and the sector's response to this complexity will require an infusion of scientific and policy skills. In light of these macro challenges, we believe that over the coming decade Australia's agriculture sector will experience an almost unquenchable thirst for graduates from a range of agricultural disciplines.

Parallel with this prediction is the forecast that employment across a range of agricultural occupations is tipped to grow by more than 36 per cent over the coming six years (*see annexure 1.0*).

## The future

- Despite the drought and current tough seasonal conditions, demand for global agricultural commodities is stronger than it has been for many decades and the mid term outlook for global agricultural prices is very positive<sup>1</sup>.
- In the horticulture industry alone, the opportunities for skilled graduates are extensive and continue to expand. Horticulture, a \$7 billion industry, is the fastest-growing sector in the Australian agricultural sector with 17,273 enterprises, employing 64,000 people. This translates to 20 per cent of the total employment in agriculture<sup>2</sup>.
- The total agriculture sector is expecting employment to increase by more than 36% over the next six years<sup>3</sup>. This equates to 123,000 agriculture-related jobs being added to the Australian economy over the next six years<sup>4</sup> with domestic training essential for a significant percentage of those jobs.
- Australian farm products are being produced using more and more complex technologies, and marketed into higher value consumer markets. As a result, the need for higher levels of skills and training within Australia's agricultural workforce is becoming more and more important. The days of the agricultural workforce being low-skilled are fast disappearing.
- Agriculture is Australia's second-largest emitter of greenhouse gases<sup>5</sup>. As such, climate change will be a major policy challenge for Australia's agriculture sector. The challenge of managing Australia's natural resources sustainably and responding to climate change while continuing to be a major food producer will see demand for graduates in agricultural science, natural resource management and agricultural economics grow strongly over the next five years.
- Over the longer term, structural changes will need to be considered to mitigate effects of climate change: policies for carbon capture, water management, farming in new regions, and the use of biofuels.

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<sup>1</sup> Mick Keogh, Executive Director Australian Farm Institute 2007

<sup>2</sup> 2007 NFF Pre-budget submission, November 2006

<sup>3</sup> Department of Education, Science and Training *Audit of Science, Engineering and Technology Skills*, July 2006

<sup>4</sup> ABS 6359.0 reports agriculture employing 338,000 people. Another 123,000 new jobs = (338,000 x 1.365) - 338,000

<sup>5</sup> Australian Farm Institute, *Climate changes, emissions trading and agriculture*, September 2007

## Biofuels

- In June, the Australian Government's Rural Industries Research and Development Corporation in its Biofuels in Australia report, stated that future technology could see

second generation biofuels being produced from new feedstocks, like crop residues, grasses, plantation and farm forestry crops, and a greater range of agricultural and industrial waste streams<sup>6</sup>.

- This report also said that biofuel production has the potential to give farmers new options to diversify their income streams, to offer new employment opportunities, to reduce greenhouse gas emissions and to provide greater fuel security for Australia.
- However, while biofuels are seen to present farmers with new opportunities, there is concern our soils are already deficient in carbon, and the extraction of biofuels is likely further deplete soil organic matter<sup>7</sup>. The complex task of balancing the opportunities for new biofuel crops with their environmental impact will need a whole new skill set covering expertise in agriculture and natural resource management.

### **Economic benefits**

- Australian agriculture is at the core of a sector of the national economy that generates more than 12 per cent of national GDP each year<sup>8</sup>.
- Agricultural productivity has exhibited strong growth over the last three decades — more than twice the rate achieved in Australia's market sector as a whole. Productivity growth has accounted for the entire increase in output by the agriculture sector over the last 30 years<sup>9</sup>.
- Services to agriculture experienced growth of around 70 per cent over the period from 1984-85 to 2001-02<sup>10</sup>. Employment growth in agriculture and natural resource management for those in science, engineering and technology professions grew almost 57 per cent between 1996-97 and 2004-05 and is forecast to grow by a further 36 per cent in the period from 2004-05 to 2012-13<sup>11</sup> (see annexure 1.0).
- The last few decades have seen changes in the skill set required by farm managers. Technological advancements, larger farms and greater awareness of environmental issues, have all meant that farmers are increasingly required to have a diverse set of skills.

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<sup>6</sup> *Biofuels in Australia: Issues and Prospects*, Rural Industries Research and Development Corporation, May 2007

<sup>7</sup> Professor Les Copeland, University of Sydney, 2007

<sup>8</sup> Australian Farm Institute, *Australia's Farm-Dependent Economy: Analysis of the Role of Agriculture in the Australian Economy*, March 2005

<sup>9</sup> Productivity Commission 2005, *Trends in Australian Agriculture*, Research Paper, Canberra

<sup>10</sup> Ibid

<sup>11</sup> Op cit Department of Education Science and Training

### **Graduate careers**

- Over recent years, Australian tertiary institutions have experienced a decline in enrolments in undergraduate agricultural science courses. As such, the students that do choose agricultural study have experienced a buoyant market with graduates often securing multiple job offers. These jobs may be in urban, regional or rural locations.

- While starting salaries range between \$39,000 - \$55,000 recruitment firms report graduates often secure higher remunerative packages to relocate to rural and regional areas. This might include a car, the cost of mobile phone and travel allowances.
- Careers based in agriculture are broad and include finance, commodity trading, environmental consulting, journalism, biotechnology, catchment management, managing urban gardens and diverse recreational areas, environmental engineering, food and beverages, bio-security and mining.
- Recruitment firms report students with agri-qualifications experience a degree of mobility and an ability to travel abroad with their qualifications (see annexure 2.0).
- Against this buoyant employment market, the majority of graduates from Sydney University's Faculty of Agriculture, Food and Natural Resources have jobs before they even complete their course<sup>12</sup>.
- An ongoing supply of graduates in agriculture is vital to the long term viability, international competitiveness and sustainability of agriculture in production, environmental and socio-economic terms. Strong and active agricultural faculties that are well-equipped, well-resourced and able to respond to changing employment needs are essential to provide suitably skilled graduates from undergraduate and postgraduate programs<sup>13</sup>.

## Conclusion

Most days our news is dominated by drought, by crop failure and how climate change is affecting all Australians, not just those in rural, regional and remote parts of the country. By any reckoning, the scene is being set for both significant opportunities and challenges in the agricultural and natural resource arena that will need to be met head on with skills and experience.

<sup>12</sup> Professor Les Copeland, University of Sydney, 2007

<sup>13</sup> Skills: Rural Australia's Need, Inquiry into rural skills training and research, House of Representatives, Standing Committee on Agriculture, Fisheries and Forestry, February 2007

## Annexure 1.0

<b>Projected employment growth in the agriculture sector – 2004–05 to 2012–13<sup>14</sup> Category</b>	<b>% change</b>
Environmental studies	45% +
Forestry studies	44%+
Fisheries studies	41%+
Other agriculture & environment	38%+
Horticulture & viticulture	35%+
Agriculture	32%+
<b>TOTAL AGRICULTURE</b>	<b>36%+</b>

<sup>14</sup> Department of Education, Science and Training op cit

## **Annexure 2.0**

### **Selected survey comments**

- “The creation of a national greenhouse emissions trading scheme will create new demand for people with the scientific skills to research and manage the interaction between agriculture and the emissions scheme - an interaction made more complex through agriculture’s role as both a source of greenhouse emissions, and a sector that will have a major role in removing greenhouse gases from the atmosphere. Given the scale and the economic importance of the greenhouse offset market alone, Australia will need thousands of skilled people to establish, manage and audit off-sets schemes,”

***Mick Keogh, Executive Director, Australian Farm Institute***

- “Despite the deteriorating seasonal conditions it is still a good time to be graduating from an agribusiness or natural resource management discipline. Those with an agricultural economics degree under their belt are likely to have multiple options on the table. Whether the current dry season is an exception or part of the new normal, in the future there will be increasing demand for graduates with expertise in water management and natural resource management in addition to the more traditional agricultural science disciplines. The market for graduates with these skills will continue to expand.”

***Mick Hay, Principal, Rimfire Resources, Brisbane***

- “We have clients who have standing orders for graduates. And when we ring them with graduates they are always be able to find positions for them,”

***Bev Carstairs, Rural Enterprises, Perth***

- “Yes, there are plenty of jobs in the ag sector and there are plenty of employers looking for good graduates. An ag education can give young people great variety in their careers,”

***Sam Short, Syngenta, Sydney***

- “Any graduate looking for a job does not have to look too hard. Employers are coming to the graduates and often the students have multiple offers,”

***Emily Ray, consultant, Hassall & Associates, Sydney***

- “There are a lot of jobs about. Most of the people in my year group have multiple job offers to choose from,”

***Tanya Morjanoff, 4th-year resource economics student Sydney University***

- “Australian farm products are being grown using more and more complex technologies, and marketed into higher value consumer markets which have very exacting requirements. As a result, the need for higher levels of skills and training within Australia’s agricultural workforce is becoming critical. The days of the agricultural workforce being low-skilled are fast disappearing,”

***Mick Keogh, Executive Director, Australian Farm Institute.***

- “Civilization as it is known today could not have evolved, nor can it survive, without an adequate food supply,”

***Norman Borlaug, American scientist and Nobel Peace Laureate, considered the father of the green revolution***

- “We don’t have a graduate program. It really depends on the position, but agricultural qualifications are what we look for,”

***Michelle Barton, recruitment manager, Rabobank Australia***

- “We certainly do take people with agricultural qualifications and they work mainly in the commodities area.”

***Leah Wilmot, graduate recruitment manager, Macquarie Bank***

### **Land of Opportunity - Sydney graduates attract top dollar!**

“The myth that opportunities in Agriculture are declining over time is contrary to statistics and continues to defy logic, but perception is a powerful mechanism” said Michele Gairn, Development Manager in the Faculty of Agriculture, Food and Natural Resources.

“The reality is quite the opposite. When you look at the range of jobs and starting salaries, Sydney University Ag graduates enjoy more interesting, challenging and even more highly remunerated career opportunities than many law graduates.”

“So, why does the perception persist? Why should career paths which are related to agriculture be confined to the perimeter of the farm? Probably because ‘agriculture’ relates to ‘farm,’ farm relates to ‘challenges of rural-life’ which include ongoing drought, climate change, inability to minimise risk adequately, mice and locust plagues, floods and hail storms, variable world market forces, changing value of the dollar, and plain hard work.”

“Historically, such inherent challenges have forged individuals with determination, inspiration, and innovation.... and today, a generation of graduates who are going global like no-other before.”

“I have tracked the career paths of Sydney Ag graduates for the past 12 years” said Michele, “I can say with a strong degree of certainty that with a good education and four years of training, your opportunities in Agriculture are only limited by your imagination! Sydney Ag graduates become the executive directors.” said Michele

“Graduates of the five undergraduate degree programs in the Faculty of Agriculture, Food and Natural Resources at Sydney University are thriving. Agricultural Science graduates are able to start on salaries of around \$45K with federal government organisations like DAFF and can move upwards to high \$60s within the space of a year.”

“A combination of strong demand and low market supply is generating starting salaries of up to \$70K plus a car for Horticultural Science graduates.”

“Agricultural Economics graduates continue to attract big salaries overseas. One 2004 graduate was recently employed with a London bank on a salary of \$170K plus a rent-free apartment close by. Another, at the age of 27, was recently appointed as an Executive Director with Goldman Sachs in London.”

“Resource Economics graduates are in strong demand as generalist economists with specialised skills in environmental and natural resource economics. These graduates are ideally placed to take advantage of the strong performing commodity sector, mining, forestry and fisheries industries, and to work on projects related to water trading and water futures.”

“Land and Water Science graduates are poised to take up the challenges related to finding solutions to better utilise our scarce and precious natural resources. With their strong cross-disciplinary training (biophysical sciences and socio-economics) and skills in computer modelling, they are in strong demand in the private and public sector to work on projects that focus on land and water-related issues such as water sharing, water quality, salinity,



acidification, soil erosion, and native vegetation loss. These graduates are able start on around \$50K with organisations such as GHD, a multi-national environmental engineering company. Others, two years out, can be earning \$60K working with organisations such as the Catchment Management Authority.

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The University's Open Day "Sydney Uni Live" is Saturday 25 August 2007.

## **Rural changes driving unquenchable thirst for agricultural qualifications**

Demand for people with agricultural and NRM qualifications is expected to rise by 36 per cent over the next six years, according to research from the University of Sydney. The research was carried out by the Faculty of Agriculture, Food and Natural Resources to explore the current and future landscape for graduate employment in the Australian agribusiness and NRM sector. It draws from current literature plus interviews with agriculture recruitment firms, agriculture employers and key influencers in Australia's agriculture and NRM sector.

"Australia's agricultural sector is facing seismic challenges from climate change, the drive to sustainability and the corrosive effects of the country's skills shortage," said Professor Les Copeland, Dean of Sydney University's Faculty of Agriculture, Food and Natural Resources.

"It is clear that climate change will pose an increasingly complex landscape for the sector, both from an operational and regulatory standpoint and the sector's response to this complexity will require an infusion of scientific and policy skill.

"In light of these macro challenges, we believe that over the coming decade Australia's agriculture sector will experience an almost unquenchable thirst for graduates from a range of agricultural disciplines," Professor Copeland said.

Key findings:

- A 36 per cent increase in agricultural jobs which equates to another 123,000 agriculture-related jobs added to the Australian economy over the next six years;
- The potential of biofuels to reduce greenhouse gas emissions and to provide greater fuel security for Australia, will require the skills of young people with a range of agricultural and natural resource management qualifications;
- In the horticulture industry alone, the opportunities for skilled graduates are extensive and continue to expand. Horticulture, a \$7 billion industry, is the fastest-growing sector in the Australian agricultural sector with 17,273 enterprises;
- While graduate salaries range up to \$55,000 per annum, recruitment firms report that graduates often secure higher remunerative packages to relocate to rural and regional areas and enjoy a range of overseas opportunities;
- Almost all graduates from Sydney University's Faculty of Agriculture, Food and Natural Resources are offered jobs before they even complete their course.

The research findings will be presented later this week in Canberra to a meeting of the Australian Council of Deans of Agriculture, representing the Universities of Sydney, Adelaide, Charles Sturt, La Trobe, Melbourne, New England, Queensland, Tasmania and Western Australia. The Council is keen to develop sector-wide strategies for strengthening student recruitment into agricultural science programs.

The findings are also supported by the Australian Institute of Agricultural Science which has set up a Special Interest Group on Agricultural Education and is actively championing the need for human capital development in agriculture and natural resource management.

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## Horticulture at the University of Sydney

### Food for thought

Most of us take our food, water and energy for granted. But in a rapidly changing world, have you ever stopped to consider:

- How can we feed the world, especially when the climate and our resources are changing constantly?
- How can we use our natural resources in a sustainable way?
- How can we produce nutritious food without degrading environmental values such as the quality of soil, water and the atmosphere?

### Be part of the solution

By studying horticulture you can be part of the solution. The study of horticulture at the University of Sydney focuses on the science behind growing and marketing horticultural crops (fruit, vegetables and flowers) in a sustainable way. Horticulture is the most rapidly growing and diverse sector of Agriculture. The opportunities to make a difference are huge. There are not enough graduates to fill the demand for jobs in the horticultural industry.

At the University of Sydney, horticulture is a major elective which can form part of either the Bachelor of Science in Agriculture or Bachelor of Environmental Systems degrees offered by the Faculty of Agriculture, Food and Natural Resources.

### What makes the University of Sydney special?

1. The University of Sydney campus ranks amongst the best in the country.
2. The staff and students get to know each other through small class sizes, considered academic advising, professional experience and excursions.
3. It allows flexible subject selection, with a broad range of units of study from science, sustainability to economics.
4. The Faculty attracts a diversity of students from rural and urban areas and from overseas.
5. Graduates are differentiated by having superior analytical, quantitative, business, computer and communication skills. You learn how to problem solve and negotiate positive change.
6. Students undertake a professional experience program which provides contacts with industry, often leading to offers of employment. *Over 95% of our students are employed within three months of completion of their degrees.*

### **What a Sydney horticulture graduate has to say**

“Horticultural science intrigued me as it offered not only a great foundation in the biological sciences but provided the opportunity for hands-on experience both in the field and the lab. Since that time, I haven’t looked back. I have been introduced to numerous fields of applied science including genetics, biochemistry, plant ecology, climatology and entomology, to name a few. I have taken part in experiments which were at the forefront of science and had heaps of fun along the way. I like the Ag Faculty at Sydney University because it is a small personalised Faculty in a big and prestigious University”.

### **Scholarships available for rural and regional residents**

Australia's rural sector is at a turning point, prompting the University of Sydney to offer 25 scholarships for degrees in sustainable natural and agricultural systems to rural and regional New South Wales residents.

Each scholarship will cover tuition fees for a degree with a focus on sustainability. Scholarships are worth \$10,000 over three years. Applicants must demonstrate that they are eligible for this award and will be required to supply a written statement supporting their passion for sustainability.

## **International Horticulture Congress – Lisbon, Portugal August 2010**

Education and Training seminar 5 “*Horticultural Education - Modernising the Brand: a Case Study from the University of Sydney*”. Presented by Dr Jenny Jobling.

Dr Lucy Buxton and Dr Jenny Jobling

Horticulture at the University of Sydney is part of the prestigious teaching activities of the Faculty of Agriculture, Food and Natural Resources. Over the last 15 years, student recruitment to agriculture/horticulture/production degrees has decreased across the world. A new project involving market research, audience profiling and a design implementation targeting Gen Y is currently underway which aims to identify and address misconceptions of agriculture/horticulture and attract new students to tertiary education in these areas. This presentation presented the research findings of this case study, examples of new web based resources and the impact results of this innovative initiative.

### **Website Redesign**

Within the University, the Faculty’s new website design was received as a significant breakthrough and development. An indicator of the success of the new website is the high level of take up of the design principals and concepts by other parts of the University. In addition the Faculty’s website now features in the University’s website reports as one of the Faculties that achieve high levels of visitors.

## Recommendations

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An expansion of the online experience through the use of social media would be an area for future research. Social media, such as Twitter and Facebook, gained prominence during the period of this project but was not included specifically in this study.

With regard to scholarships, a survey of scholarship offerings across the sector and beyond is highly recommended. Also highly recommended is the development of an online one-stop shop collating scholarships in an easy place for applicants to access information and apply.

## Conclusions

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The main conclusions are:

- An online presence is a necessity.
- Initial financial and time investment offers considerable benefits when done strategically.
- Market research offers beneficial insights into key markets and communication methods.
- Non topic-specific scholarships either targeted at high achieving students or those addressing financial disadvantage attract the most applicants.