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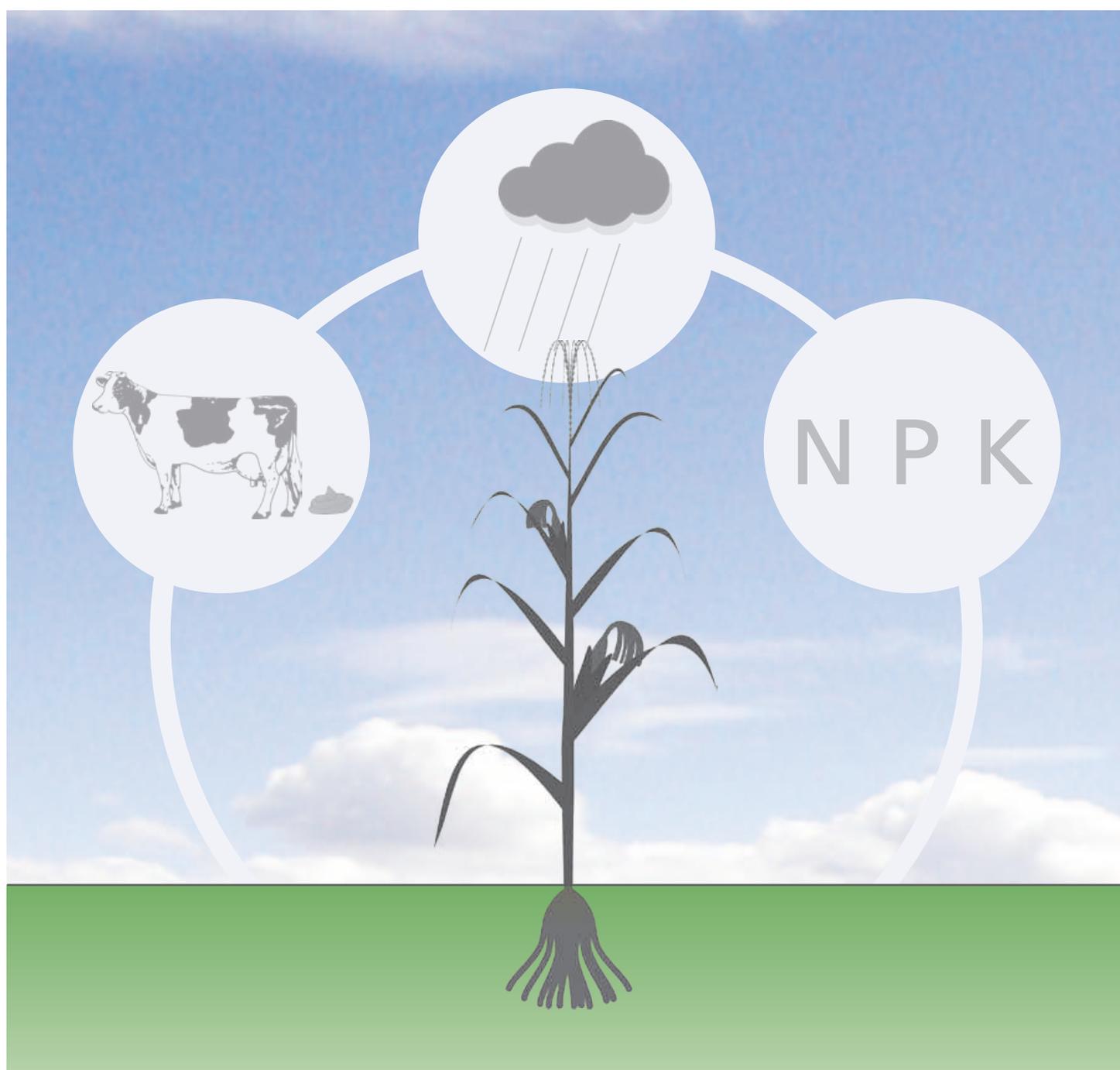
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Primary Industry Management



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Encouraging students into the primary sector



New Zealand sits in an interesting position. It has a reputation as a world-leading, innovative food producer and has around 60 per cent of its export wealth coming from the primary sector. As such, you could be forgiven for assuming that a fairly typical secondary school student, when considering options for tertiary study, would be attuned to the scientific and commercial opportunities which fall out of the nation's largest industry.

However, New Zealand is also a highly urbanised society. According to the 2001 census, 86 per cent of the country's total population were living in urban centres and a large proportion of these in Auckland. When it comes to population distribution this country is therefore highly urbanised and top heavy.

We can put part of New Zealand's heavily skewed demographic shift from rural to urban down to the efficiencies and innovations which make our primary sector so competitive, features which have eased the demand for labour on the land. However, such a change need not imply that the current urban to rural ratio is conducive to ensuring that this sector is will be supplied by the annual pool of university graduates. Between them, Lincoln and Massey Universities may only be turning out about a third of the graduates in land-based science and commerce programmes required by the primary industry.

Disconnection with agriculture

Lincoln's student liaison team travels the country promoting the academic and vocational programmes at career expos and school career evenings. They can provide anecdotal evidence which suggests a growing unfamiliarity with the primary sector disconnected from the word agriculture. This can be partially attributed to New Zealand's more urbanised population.

It is not uncommon at career events in Auckland for a parent to ask the student liaison officer if they had 'come all the way from Wellington for this'. Alternatively a parent may scarcely even have heard of Lincoln University enough to locate it, such is the dominating presence of the large Auckland universities or technical institutes in the minds of local students and parents.

That is just farming

It is also not uncommon at career events for students or parents to pass by the Lincoln University stand and be heard to exclaim among themselves – 'that's just farming'. It is concerning that a tertiary institution, which has for more than 130 years provided programmes clearly aligned to the main commercial interests of this country, should suffer from such dismissive or uninformed comments. If this is indicative of the wider urban student market, then it has the very real possibility of being commercially detrimental, and is of concern for the primary sector's success in the future. New Zealand's competitive advantage relies on a healthy pool of the best and brightest choosing a land-based tertiary qualification.

The 'that's just farming' comment can be interpreted two ways, with each alluding to a worrying ignorance that has possibly developed within the general urban

population. One interpretation, that Lincoln University only teaches farming, is obviously false. Yet perhaps underlying such a comment is either a mainly forgivable unawareness on the part of the individual about the full range of programmes on offer at Lincoln, or a more serious lack of awareness of the broader reach of what constitutes the primary sector. The primary industry is not just farming. It incorporates the vital fields of commercially relevant research such as plant science, animal science, soil science, food science, bioprotection and biosecurity, supply chain management, economics, finance and environmental management.

The other interpretation of 'that's just farming' may simply imply a lack of awareness of what managing a 21st century farm actually entails and what it takes to be a successful farmer. A farm is a multi-faceted complex business requiring the farmer to have a broad range of skills and knowledge in business and applied science, as well as the astuteness to bring these together in a commercially viable way.

The reality of farming speaks of a more complex business management than that of a florist or small cafe. Under this interpretation, just farming misses the point entirely and implies a more urban conceptualisation of what a business actually looks like.

Untapped student number potential

The lack of awareness in the urban sector to just what the primary sector entails, and the educational and career opportunities it can offer, could be viewed positively. It implies there is still plenty of untapped potential to service the graduate demands of the primary industry. However, the low numbers of students choosing land-based educational programmes relative to the industry's size, instead of qualifications which are deemed more fashionable or of higher status, has reached a point that should no longer be dismissed as an interesting quirk of the education market.

With New Zealand's primary production expertise required on a global scale more than ever, the lack of interest in land-based educational programmes in science and commerce is now a matter for serious consideration. To put this in perspective, last year less than one per cent of all university graduates across all eight universities were trained in an agricultural or horticultural-based qualification. Not only is this New Zealand's number one industry, it is the industry which complements the country's sizeable service sector.

Dr Andrew West, Vice-Chancellor of Lincoln University, suggested during his presentation at the NZIPIM conference this year, that it is an industry with tremendous reach and enormous potential for making an even greater contribution to the nation's commercial standing, even with a modest increase in investment in skills, research and development. Unless New Zealand starts drilling for oil, he suggested that no other industry can or will come close to the kind of growth that the primary sector can offer, no matter how much others may speak of new knowledge economy start-up ventures. When it comes to investment required relative

to the gains to be had, primary industry is undoubtedly this country's most attractive proposition for global influence and commercial success, especially as its foundation is already firmly established.

Global value of land-based education

If the primary sector is to attract the desired quantity of high calibre candidates which it needs across all facets of the industry, then it may need to take a more comprehensive and persuasive approach than just stating the career opportunities available. Rather than merely pointing to a qualification and declaring that this could lead to job, we may need to consider using language about real causes that the primary sector can make some claim to.

This includes explicitly stating the tangible and meaningful effects that students with a land-based education can make to the challenges of a world under pressure from a global population which is growing exponentially. In so doing, it is hoped that a greater portion of the urban student market and their influencers, such as career advisors, teachers and parents, can become aware of the the global value and relevance of a land-based education.

Encouraging urban students

In case this begins to seem like an urban beat-up, some students from the larger towns and cities do have a very good understanding of the relevance and scope of the primary sector. Even in these cases, however, many are reluctant to enter into, perhaps a bachelor of commerce agriculture or a bachelor of agricultural science degree, thinking that their urban upbringing has denied them the experience or foundational understanding they assume they need to succeed in these programmes.

These students worry that they would be on the academic back foot from the start. This is another hurdle that institutions promoting primary sector education need to overcome if the industry is to attract the much-needed student numbers. Lincoln does get students from larger cities enrolling in land-based programmes such as the bachelor of agricultural science or diploma in agriculture. But they often have a family member, perhaps an uncle and aunt, with a farm who they would visit during the school holidays. The disconnection with the word agriculture has therefore already been bridged. Such students feel less alienated from the rural world, as some of their urban contemporaries do, and they have also gained an insight into its possibilities.

University catchment

Of the 42 schools around the country from which Lincoln University has averaged 15 new students or more every year for the past four years, 34 are South Island based. This is not necessarily surprising as a university's main catchment area for new students will usually be its own. However, a notable proportion of these schools are in small towns which service the rural sector. In addition, a large number of the Christchurch schools from where Lincoln may gain new students are boarding schools, suggesting an even greater

proportion of new students coming from rural or semi-rural locations. This would reinforce the fact that tertiary programmes orientated toward the primary sector are not the main choice for highly urbanised students.

As the burden of our commercial viability rests most heavily on the primary sector, and when we consider that over the past seven years, only five per cent of Lincoln University's students have come from the city which has more than 30 per cent of our population, we can begin to see the problem more clearly. The problem looks starker when we also consider that the figure for Bay of Plenty is 4.9 per cent and 3.4 per cent for Wellington. This means that over the past seven years, just 13.3 per cent of Lincoln's tertiary students came from regions making up 44 per cent of New Zealand's total population base.

These figures might not seem all that troubling. If not, then it should be noted that the figure of 13.3 per cent applies to all programmes offered at Lincoln – undergraduate and postgraduate degrees, diplomas and certificates – across all subject fields. If we were to look at total students nationwide enrolling purely in the bachelor of commerce (agriculture), the bachelor of agriculture, or the bachelor of agricultural science relative to total undergraduate enrolments, in 2013 as an example it is about 41 percent of Lincoln's undergraduates.

Anecdotal evidence

Is stating the kind of roles open to students were they to embark on a land-based qualification enough? An anecdotal example from the travels of a student liaison officer may help. He was given, along with representatives from other universities, 15 minutes to overview the science offerings available at Lincoln to an assembly of 300 Year 13 students in one of the North Island's largest city schools.

'Who here is interested in science and is seriously considering studying a science-based programme at university next year?' he asked. Approximately 200 students raising their hand in answer. Of those who did this he went on to ask, 'Who would like to have some sort of career working in a science field?' In response to this question, practically all the same individuals raised their hand.

Sensing he had captured the attention of up to 200 students anxious for information on making a sound decision about their choice of university programme, he went on to outline how they could apply their interest in chemistry or biology or both to programmes aligned to the main commercial interests of the country. He also mentioned that because these are the country's main commercial interests, and with the added bonus of an industry skills shortage, the opportunity for securing a science-based role from a four year bachelor of agricultural science degree is good.

As well as overviewing this degree, the liaison officer went on to outline some of the roles available such as bioprotection and biosecurity, animal science, plant science and viticulture. He then noted that because of industry shortages, starting salaries can be higher than that of the average graduate.

He also said that should they wish to be employed in many other science fields, they may be required to study

to PhD level only to find themselves entering a highly competitive job market which could mean lower starting salaries and fewer opportunities. He was therefore suggesting to them to apply a core interest in biology or chemistry to fields that come with a higher probability of employment and progression.

It may come as no surprise that of the 200 or so budding scientists at this school, not one came to see him afterwards to discuss the possibility of enrolling in a degree programme in a land-based science field. What does this tell us? Perhaps these students are influenced by what sounds cool, what their friends will be studying and where, or what their brother or sister did at university.

Role of career advisors, teachers and parents

If the primary industry is to attract the graduates it needs it should perhaps be asking parents, career advisors and teachers to take a more paternalistic approach to guiding our secondary students into tertiary programmes. For this to be successful with regard to the primary industry, it also requires a sound and unbiased understanding of the industry on the part of these influencers.

I believe there is a sometimes tepid attitude held by those in the career advisory profession towards recommending training for a career in the land-based industries. Part of the problem is that some career advisors may still have the misconception that agriculture is the domain of the less academically gifted. If this is the case, then as a university we need to do more work with career advisors to educate them on the full scope of the activities and opportunities of the primary sector.

Returning to the students themselves and what encourages them to take on a land-based education, such an approach has been underwritten in Lincoln's marketing campaigns of the last two to three years. It is reflected in the principles guiding our recent qualification reforms 'Feed the World, Protect the Future, Live Well'. These aim to further align our programmes to the expectations of New Zealand industry and very real global demands.

A government problem

The responsibility for making a land-based education and the careers stemming from it a more attractive proposition for even the most urban of students does not fall just on tertiary providers. It is a broader industry problem, which also makes it a government problem.

With shared responsibility, effective collaboration from mechanisms such as industry scholarships and sponsorship, and an industry-focused public relations campaign, a bridge can be built to the urban student market, sufficient to provide the primary sector with the quantity and calibre of new entrants required to optimise the potential of this country's most important industry. What is needed is recognition of the problem, a collective will to rectify it, and a well-implemented strategic vision.

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