



## PICSE-NSW

For 18-year-old Carissa Green the choice was easy. Having grown up on a sheep and cattle property east of Armidale, the transition into a rural career with a focus on animal production was always on the cards.

In 2007, a scheduled school visit by Susanna Greig, the Science Education Officer (SEO) attached to the University of New England (UNE) Activity Centre and part of the national PICSE program, sparked interest in the application of science and technology in the diversity of industries associated with food production, food sustainability and food security.

As part of the national PICSE program, presentations are made by SEO's to classrooms of Year 11 and 12 chemistry students. The presentations highlight the clever and innovative science associated with a broad range of primary industries – "Making Science Relevant". The program also includes a unique opportunity for students to participate in a "Science to Industry" camp, where students extend their learning boundaries (as well as meet great new friends) and participate in an industry placement, considered by many students as the penultimate highlight and the "game changer".

For Carissa, the Camp exceeded her expectations. Not only did she meet a fantastic group of "new" friends, but she also discovered "new" inner confidence. She had never climbed a rock wall, built a raft and had no idea of the stellar constellations. The world was opening up.

Choosing a suitable Industry Placement for Carissa was a challenge. The New England region is well branded for producing top quality beef cattle, superior quality wool and the tastiest spring lamb. A placement in an associated industry would have been too easy.

Instead the PICSE team placed Clarissa with Top of The Range Tomatoes (part of the Costa Group) in Guyra. But this is no ordinary tomato growing venture. It is state of the art.

Initially this was 10 hectares (about 4 AFL football fields) now an additional 10 ha of glasshouses have been developed. At this stage, it is estimated the glasshouses will be housing some 600,000 plants. As each plant produces 20kgs of



tomatoes in one year, this is a yearly supply of 12 million kilograms of high quality tomatoes. This is hydroponics incorporating sophisticated technologies at the very cutting edge. Precise plant nutrients, optimal growing temperatures, humidity and moisture are fully computer controlled. Robotic trolleys stacked with freshly picked truss tomatoes effortlessly glide past along invisible electromagnetic pathways to be packed. This is the epitome of sustainable agriculture of the future. This is science and technology at its best and allowing for efficient high quality food production.

In her PICSE Industry Placement at Top of The Range Tomatoes, Carissa was suitably "blown away". She is now enrolled at the University of New England where she is in her first year of an Agricultural Science degree. Already she has plans to do part of her degree in California USA, where she will further investigate intensive horticulture. Her future is secure.

Carissa's story is not unique. There are many other similar stories where students having undergone the PICSE experience have committed to career pathways involving a range of primary industries.

The PICSE program is a unique partnership between Universities, Industry and The Commonwealth Government. The program currently operates activity centres in 5 states, partners with 6 universities and a plethora of local and regional businesses. The program plans to expand to 14 regional activity centres in all Australian States and Territories.

*Vic Dobos (PICSE National)*



## Lasting Impact on Students



“The camp was one of the best weeks of my life and I took heaps away from it with highlights such as visiting Yalumba nursery and winery where they had one of the biggest labs I have seen”

*Student (PICSE – GrowSmart, SA)*



“Agriculture - how much more interesting than before I attended the camp. It really opened up my eyes to the huge spectrum of careers, fields and areas which are encompassed by the field. It also really inspired me and encouraged the belief that each of us can make a difference”

*Student (PICSE – GRDC, WA)*

## Teachers Linking with Industry



The PICSE team was asked early in the year to work with the ten teachers who were teaching science, to assist them to integrate science investigations into the curriculum and to assist staff with strategies to facilitate this. This PD afternoon was followed up with an afternoon visit to the biggest vegetable processor in Australia, Simplot Ulverstone.

As a consequence of this visit, Simplot researchers are linked with Latrobe High School staff and with students as mentors for science investigations involving potatoes for this year’s Science Fair ... very appropriate for the “Year of the Potato”!

It is clear that PICSE is really making a positive difference to increasing retention in science, to addressing skills shortages, as well as linking schools with university and industry.

*Paul O’Halloran, UTAS (PICSE SEO)*

## “Science in Action” for Teachers



“The experience has refreshed my ideas about ‘real world’ science and has motivated me to continue the effort to link science from the real world into my classroom.”

*Teacher (PICSE Teachers’ PD)*



“I now feel that I have a better overall and broader knowledge of GM than before that will help me in my education of students.”

“This PD has given me great examples of GM Technologies to share with my students. We were given some very useful teaching resources on ethical questions of GMO’s.”

*Teachers (PICSE Teachers’ PD, Tas)*

## PICSE: Part of the Solution



Surging global food prices, climate change, agriculture’s impact on the environment, sustainable water use, predicted strong growth in Australia’s agricultural production, all point to the urgency of building a knowledge based economy for primary industries. The long term solution for this crisis is to develop an integrated national strategy to encourage school students, supported by their teachers, to consider science careers in primary industries, ie PICSE.

The 2007/08 PICSE Pilot was successful in establishing Activity Centres in Tasmania, WA, SA, NSW and Queensland. Six thousand Year 11/12 students were spoken to in class, 130 students were placed in Industry and 170 teachers enrolled in Industry based PDs. During 2008/09, PICSE will be seeking ongoing financial support from National Agribusiness, asking them **to be part of the solution.**

*Dr David Russell, UTAS (PICSE Director)*