

Careers in Primary Industries – transcript

Joshua Jarvis, Technical Officer, Central Coast Primary Industries Centre

G'day, I'm Joshua Jarvis. I'm a Technical Officer here at New South Wales DPI, and I'm in charge of the Greenhouse Production Facility here at Ourimbah.

What is the purpose of your role?

We're doing work at the moment on a bacterial disease called *Xanthomonas campestris*, and we're looking at the persistence of it in the soil so the growers can know how quickly they can re plant a crop in over the top of their existing crop if it has been infected. So we grew some material heavily infected with the *campestris*, buried it in the ground, and then every month we're removing that material out of the ground. We mix it up in the lab and then we re inoculate these plants here with that material to see if they're bacteria still active in the soil. And hopefully that will give the farmers some good control methodologies to help reduce that bacterial load in their farms.

How does it fit into the role of DPI?

DPI's role, as most would be aware, is to help facilitate the growing of agricultural communities and the best practices on farms for disease, pests and chemical use and things like that. So hopefully out of this project we'll be able to inform growers on the best ways to actually do that, work down the track and remove the risk of having disease load on their farm and affecting their next crop, making them more profitable.

What is a typical day like in your role?

A typical day here at the greenhouse complex is basically first thing in the morning I come in and I check all the requisite plants that I have here. I water and score them for the disease and monitor them for pests and other impacts that may be having on the crop. My day basically revolves around me checking systems making sure the experiments are running correctly. My main role is basically to grow plants and then I'll have pathologists and entomologist come along and put insects and disease on them and try to kill them on me. So it's a bit of a bit of a double edged sword there, but it's definitely a very rewarding and fulfilling role.

I spend time in the lab as well supporting that. We take the plants down there for processing, plating them out on agar plates to see if the disease is present or not. Also, I've been lucky enough since I have been in the department for 20 odd years that I've acted in the manager role on site here and I've had a lot of opportunities to do more, to do things quite a bit outside of my core technical officer role. it's a great job.

What do you love about your job?

The main thing I like about my role is the fact that I get to do a lot of different stuff. So basically, I grow plants, I build irrigation systems. I do greenhouse control electronics as well

as a background there. And basically I get to interact with, with really interesting researchers doing really good research that will have a positive impact on growers of New South Wales.

What could you do without?

Probably paperwork. I think that you'll find that's probably the biggest call out across the whole of the department, but a lot of the systems and practices have been put into place to help us streamline that at the moment. But probably paperwork is probably my one bugbear

Does creativity play a part in your role?

Yeah, definitely. Like, creativity is one of the main factors that I have to deal with every So a researcher will come to me wanting to do a particular experiment or particular trial set up, and I have to make sure that I can use a bit of knowledge and a little bit of creativity to build a system and come up with a program that will actually deliver what the researcher wants. So being able to think outside the box is a really important part of my role.

What personal attributes are beneficial in this role?

Definitely attention to detail and being very precise with what you do, being a research facility, we have to make sure that the data we collect and what we give out in the way we run our experiments really do make sure that they're spot on ... make sure you keep that attention to those finicky little things that make it viable for a researcher to publish a paper on a scientific journal. So we have to make sure that all of those little nitty gritty things are spot on.

What qualifications do you need for this role?

I personally have a Bachelor of Science with a double major in biology and physical geography. So I did dirt and plants, which has basically allowed me to get into this mostly. I've also been lucky to bring the skills that I had outside of DPI into the role where I work for a greenhouse controller company, and I work for myself as well before I got my role in DPI.

So I've been able to bring those skill sets in as well from outside to do that. But mostly it's been just having this good science and agricultural background in my quals.

If you're interested in getting into this sort of field and you're not wanting to do a degree or a bachelor's at university, TAFE is a great option, Tocal College as well, some of the agricultural certificates that they do and just industry experience as well. So basically, if you can get out there and get some hands on experience in a nursery, a wholesale nursery or on a farm somewhere, that will give you the physical and practical experience, you'll need to at least get a foot in the department. But a bit of paper through TAFE or Tocal would probably be the least requirement. So you have a clear understanding of those sort of processes.

Where did you study?

I studied at the University of Newcastle, so we're actually co-located at their Ourimbah campus here, but I did my degree at Callahan, so yeah, so just 5 minutes up the road.

What other roles have you had?

I worked for Yates Botanicals initially, so doing their actually I started off mixing soils in their facility up at Somersby. And then I moved on to control of the propagation area with the

ladies on the cutting bench, putting down thousands of cuttings of roses and that a day. And that gave me a fairly good background to come into this. And it was a girl I was working with who was doing some research at Yates that some told me about the role that was available at DPI.

I basically came into the department as a Technical Officer but I've been on soft money for the first ten, 15 years of my career until I was able to get the Greenhouse Manager role. So I've I've worked on all sorts of stuff. So I came in as a Technical Officer Grade 1 1 1 and I worked for pathology, entomology, market access. So I had a really broad base in which to apply my skill sets later on. and it's really been that learning on the job from the scientists and the other technical staff to get to this position to be able to do what I do at this level

Where did you grow up?

I grew up in lots of different places. I'm a RAAF brat, so I've spent time in Malaysia, Newcastle, Wagga and all around the place. But mostly, most of my adult life has been here on the Central Coast. Mum and Dad own a property up at Somersby, so I do have that farming background which is definitely handy for your hands on stuff.

What impact do you see technology having on this work in the next 20+ years?

Well, basically because I do work in protected cropping, it's the high tech end of most of the production research stuff. So basically I'm lucky that I'm sitting fairly close to that, that front edge of technological advances, things will become more automated. I mean, we have an irrigation and temperature control environment system here that is fully automated so that the fact that you have computer skills and the ability to do that sort of work is really, really going to be important coming down the track. Robotics and things like that are playing more and more significant role and coming up with other systems to do that sort of work.

What advice do you have for young people who are interested in this sort of work?

Look, if you're interested in joining DPI and I would suggest that it's been a fairly fulfilling career path for myself. It's given me a lot of work in lots of different areas, but just give it a go and don't underestimate yourselves. And just, just because it's a science field or it's seen as a technical field, don't be held back hands on practical capability is probably the biggest thing that I bring to the department. So give it a go. Get your hands in there and just try.