# Science to Practice Forum 2023

Day 1 Sessions 3 and 4 transcript

(Duration 92 mins 40 secs)

6 June 2023

## Introduction

This is the transcript of one of the Future Drought Fund’s Science to Practice Forum sessions, presented by the Department of Agriculture, Fisheries and Forestry. This transcript is for Day 1 of the Forum, session 3, Global connections for drought resilience and session 4, Where to next?

Learn more about the [Science to Practice Forum](https://www.agriculture.gov.au/agriculture-land/farm-food-drought/drought/future-drought-fund/research-adoption-program/science-to-practice-forum).

## Transcript

[Recording begins]

Pip Courtney [00:00:01]:

Welcome back to Day 1 of the Future Drought Fund’s 2023 Science to Practice Forum. I’m your host, Pip Courtney. I hope you’re enjoying the program so far. Already, you’ve heard about some of the drought resilience projects funded by the FDF in Western Australia, New South Wales and Victoria. Shortly you’ll meet a group of young Australian farmers who are gaining an international perspective on drought preparedness thanks to an overseas study tour. First though, to North Queensland where a ground-breaking Australian tool is being put to the test at Olga Downs Station with support from the Tropical North Queensland Hub.

[Video voiceover begins]

David Phelps [00:01:06]:

At the Tropical North Queensland Drought Hub we think it’s absolutely essential that we ensure that the northern beef industry and all of our other industries across our region have the access to the latest technologies. So, the investment from the Future Drought Fund is absolutely helping drive innovation, but more importantly, to help really look for those opportunities to be better prepared for and more resilient to drought into the future. Hubs right across Australia are absolutely integral to that because we all coordinate and work together, to help get the best results on the ground.

William Harrington [00:01:47]:

We’re about an hour north of Richmond, which is about halfway between Townsville and Mount Isa on a beef cattle station in Northwest Queensland called Olga Downs.

Peter Harrington [00:01:56]:

My family’s been here since 1936. Yeah, drought’s part of life out here. Preg testing’s pretty important when you’re destocking, you can make sure you keep your breeders.

William Harrington [00:02:08]:

The nearest vet’s about 200 kilometres away, and they’re very busy, so it’s quite difficult to be able to preg test cows at the moment.

David Phelps [00:02:15]:

Today we’re on Fletcherview Research Station, which is James Cook University’s veterinary training and research facility, just north of Charters Towers in Northern Queensland. The same time as the vet students are doing their normal pregnancy testing, we’re also introducing them to Agscent breath testing, preg testing technology.

Charlotte Wood [00:02:39]:

Agscent breath device was developed to solve a problem that our founder, Bronwyn Darlington, saw in her property. This age-old pregnancy testing method that was, you know, still invasive for the animals and can be quite dangerous to the operator. We have applied for funding to trial our device at a range of sites in different environments to ensure that we can optimize our technology for as many producers as possible.

Amelia Unthank [00:03:06]:

The Agscent breath is a revolutionary pregnancy diagnostic tool and it’s based off cutting edge technology, which is nano fibre sensing technology coming straight out of NASA.

Charlotte Wood [00:03:19]:

It’s a point of care device. You scan the RFID tag so that’s stored as part of the data, and you collect a breath sample from the single nostril.

Amelia Unthank [00:03:32]:

You’re going to have a test result within 60 seconds and that test result will be displayed to you in your hand on the device. But what it will also do is make a record of that sample and that result in line with its RFID tag and, if you choose, and it will send those results to the Agscent app where you’ll be able to integrate the data with any farm management software. And we can detect as early as 18 days. Reproductive management is one of the most important economic variables of a livestock production system, and it is a primary driver of profitability. With the technology in the farmer’s hand, they are now equipped with the information they need to make better reproductive management decisions and to improve their outcomes for their systems. We’re here today to test the technology in the Northern Queensland environment to ensure that it’s robust enough to stand up to the heat and humidity and the dust.

Peter Harrington [00:04:35]:

Pleased to be a partner in the Tropical North Queensland Drought Hub. It’s great to be able to help ‘em out there, provide some cattle to do some trials with. Yeah, we’re probably still a bit old fashioned in some ways it’s just a wet and dry draft here when we go through the breeders. If she hasn’t got a bag of milk or a calf, well, she usually goes to the meat works. So we can be with an accurate tool, we can be far more precise on what numbers we sell.

David Phelps [00:05:06]:

Technology has always been our way forward, especially in agriculture. It’s always allowed agriculture to reduce costs of production to become more efficient, more effective, and particularly where the innovation is really integrated with the problems on the ground. That’s where the really good technology emerges.

William Harrington [00:05:29]:

It’s really exciting to be able to use my passion for technology to be able to improve at the production and resiliency of our family business on the station.

Peter Harrington [00:05:38]:

Any new technology that can help save a bit of time and make things simpler and make and easy to use, it’s going to help your enterprise. Now the beauty of this technology is it’s pretty easy to use. We’ve got to keep it simple. This breath testing product that will be a game changer, I’m sure.

[Video voiceover ends]

Pip Courtney [00:06:18]:

That was Peter Harrington from Olga Downs Station trialling a pregnancy breath analyser, which has the potential to improve production and resiliency ahead of drought. It’s an amazing innovation.

In addition to videos and presentations from around the country, each day of the program here at the Science to Practice Forum features a panel talk. Today’s panel features 3 Nuffield Australia scholars whose research or projects had a strong focus on farming in dry conditions. Nuffield is the country’s leading agricultural scholarship organization. It’s a unique program offering Australian primary producers a chance to travel and study abroad and be part of a global network. There are over 500 Nuffield scholars in Australia and almost 2000 worldwide. Andrew Rolfe is here in the studio. Ellen Litchfield is online, and Jesse Moody is joining in all the way from Israel. Welcome to all of you.

Andrew, you are currently undertaking your Nuffield scholarship and exploring how to develop a productive, sustainable and drought resilient merino sheep farming system. Can you give us a little bit of your background?

Andrew Rolfe [00:07:38]:

Hi Pip. Thank you. Yeah, no, I’m actually down here in Cooma today. so bit of background about me. I’m on a farm here in southeast New South Wales on the Monaro in Cooma and in a cold part of the country. So, on a family farm that we’ve just completed our family succession a couple of years ago, so farming with my wife Zoe and our couple of kids. So we are running a, essentially sheep and operation with merinos and composites at the moment and ramming down about 9,000 ewes.

So a bit about my sort of journey, coming into that big drought, from the 17, 18, 19 was quite hard, especially off on the eastern seaboard all over Australia. But sort of, a few techniques we sort of recognised had some potential to maybe, get through droughts with containment feeding techniques like that. But I, I sort of saw the opportunity to actually increase our production while trying to maintain our base. So I sort of presented, when I went for my Nuffield scholarship, in looking at intensification in sheep production systems to try and, you know, mitigate throughout, but also to be able to improve your profitability so you’ll have be more sustainable and more resilient coming into tough situations.

Pip Courtney [00:08:55]:

And Ellen, can you tell us, what year were you a Nuffield scholar and tell us a bit about yourself.

Ellen Litchfield [00:09:02]:

Hi, thanks so much for having me. Yeah, I was a Nuffield scholar in 2019. So really lucky to get out and do a lot of traveling pre-Covid. It was also a really interesting time for the agriculture sector because it was around the same time as Brexit was happening, and also swine fever, so really interesting for protein production and flows. So yeah, we had a really fantastic time. I’m on a cattle and sheep station in northern South Australia up near Lake Eyre. My husband and our children live on Wilparina Station with my parents. And then we’ve got two other properties that we sort of run together in the company and my brother and his wife are on one of those and my uncle and auntie are on another one. So it’s a lot of country to cover and a pretty remote sort of part of the world.

Pip Courtney [00:10:02]:

Rangelands, yeah. You just picked a little one. And what did you find on your, your trip?

Ellen Litchfield [00:10:09]:

Yeah, so I was looking at the impacts of the sort of socio-political and environmental impacts of climate change on livestock production in the rangelands. And so my focus was trying to make sure it wasn’t just about the environmental impacts, which, you know, for where we are in South Australia, we’ve got the most volatile rainfall in Australia as well as you know, a very low one at that. So anything that has the potential to make it warmer and, well rainfall is always an issue for us and our sustainability into the future. So yeah, looked at that and some modelling as well as how policies and the social license around ruminants, particularly obviously because we’ve got cattle as well and how that is affected by climate change and people’s perceptions of, if you’re part of the problem or part of the solution.

Pip Courtney [00:11:09]:

Thanks Ellen and Jesse, welcome all the way from Israel.

Jesse Moody [00:11:14]:

G’day Pip, thanks for having me on.

Pip Courtney [00:11:16]:

Why are you over there and can you tell us a bit about what your project is?

Jesse Moody [00:11:23]:

Yeah, certainly Pip. I’m currently in Israel as part of Nuffield’s Global Focus Program. So, we’ll travel to a variety of countries where we will expand our knowledge of all things agriculture, better communication skills, better markets, all the above really. But my background is Merino operation in southwest Queensland at Cunnamulla, on the northern fridges of the famous Cunnamulla salad bowl in the Mulga Lands. I grew up basically most of my adult working life. My family’s been in a rather nasty drought. We had the 7-year millennial drought, and then we got a few years reprieve, and then in about 2012 we were in another sort of 8-year drought. So, we certainly know what to expect and we’re certainly well-rehearsed, in managing drought conditions. But through my Nuffield scholarship, I’m looking at better ways to mitigate that. And like Rolfey said, handle more volatile climatic conditions really.

Pip Courtney [00:12:36]:

And you’re actually on a Nuffield scholarship right now?

Jesse Moody [00:12:39]:

Yes. So I’ve been to, earlier on I was in Argentina and Patagonia where they were in a severe drought. They’d averaged a hundred mils for the last 2 years or no, last 12 months. And so I got to see firsthand how they’re managing that. And I’m currently, where I’m in now they’ve got an average rainfall of 50 mils per year. So it’s quite interesting to see how they manage their water availability.

Pip Courtney [00:13:07]:

Well, I’ll throw it out to each of you, maybe we’ll start with Andrew. What led you to apply for the scholarship? What was appealing about this Nuffield opportunity?

Andrew Rolfe [00:13:18]:

Well, what an opportunity it is. So I saw it and always wondered about Nuffield. Got to see, you know, see the scholars present and go, geez that sounds good. And so, I saw it come up and it was actually, Covid was starting to kick off and I’m going, not going to be that many people apply this year, I’ll have a go. But it was, the [inaudible] part was just that network building I think and just that like ability to travel. I’ve done a little bit of travel, luckily enough to get a couple of scholarships over the years and it just, every time I’ve done it, it’s just been amazing and you come back full of energy and enthusiasm, but also there’s just different ways of thinking about things. So yeah, essentially, we’ll have a go and thought what have we got to lose to apply for it and managed to sneak in.

Pip Courtney [00:14:02]:

And what about you, Ellen? Why did you apply?

Ellen Litchfield [00:14:06]:

Yeah, I guess so my background is as a vet and I moved back to the family property in 2017 and sort of the, you know, I’m really proud of the way that we can produce beef where we are, and then what I was hearing and you know, the media, it really made it seem like it was really at odds, the image of beef production with what I you know, was seeing at home and on the property. So I really wanted to investigate that further. And then luckily yeah, found the Nuffield. And now I really think the most important part that you gain from it really is the network. You know, you get lifelong friends that are, you know, extremely accomplished and from all over the world and working in all different areas. And there is, like Rolfey sort of mentioned, there’s just this some sort of energy and spark that you know, it’s just, really gives you a lot of enthusiasm talking to other Nuffielders, and I can really recommend it for, yeah, anyone that wants a bit of a, like, inspiration boost back at home, even now.

So yeah, like I said, I was back in 2019 and then with Covid we haven’t really caught up much. But anytime I, you know, want to bounce an idea off, or especially if it’s something, you know career related, I can give any of my Nuffield friends a call and yeah, they’re a really great sounding board and they’re full of solutions, not you know, not reasons why you can’t do something. It’s a really solution-focused group.

Pip Courtney [00:15:47]:

And Jesse, you are in a country that a lot of Australians look to for water efficiency tips and gains and technology, but you’ve also been in other countries. What’s been the highlight is, is it Israel or other places?

Jesse Moody [00:16:02]:

So far, I’d say the highlight’s been Argentina. They were extremely passionate about their product and the conditions both politically and environmentally were very challenging. And how they got through that, how they managed their mindsets and just everything through those conditions was quite impressive. So, I took a lot of inspiration from what they were doing and how they were managing everything around them. So that’d be a highlight so far.

Pip Courtney [00:16:34]:

Now each of you had some aspect of drought resilience or drought preparedness considered in your research. Globally, do producers building drought resilience into their system, did they have things in common with each other or things in common with Australia?

Jesse Moody [00:16:52]:

I’d say the Argentinians definitely have. I’ve still got to go to Africa and talk to ranchers over there to see, because I see those two regions been the most similar to ours back home, so it’ll be interesting to see how they both compare to us. But they definitely have different techniques, but I know in South America they look to Australia as leaders on this front. So they found it very interesting that I was over there to learn from them.

Pip Courtney [00:17:22]:

What about you, Andrew? What did you find any commonalities or are we the leaders in the world?

Andrew Rolfe [00:17:28]:

I guess as Ellen sort of touched on too, like I’ve suspect our climate or, and obviously South America is similar, but the, one of the most variable, and I haven’t got to finish my Nuffield scholarship yet, but from what I’ve seen more of the northern hemisphere where it’s a bit more stable sort of climate and stable conditions, they sort of see us as handling the droughts and things, the variability, fairly well. But what I sort of can see is like, there is some similarities in terms of like, you know, water conservation and things like that, but all the countries I have sort of visited, politically and governmentally, like the policies around agriculture is all very different. And so, there’s sort of like, obviously there’s a lot more subsidisation, especially through the western countries and things like that that seem to push and prop up, whereas it seems like in Australia and then other countries, it’s not so much driven that sort of way. But there’s, yeah, I’ve think the more variability of the climate’s coming, they’re sort of looking towards what we’ve sort of been dealing with the last, you know, hundred years in Ag.

Pip Courtney [00:18:37]:

Have any of you and, and jump in, brought back ideas from overseas that you’ve been able to implement on your properties?

Jesse Moody [00:18:47]:

Yes, certainly I noticed they that in South America they have a problem with the bush called Mata negro, and there was a producer there that was actually slashing paths or mulching paths through there so he could get his sheep through easier. But as a side effect, he could see that the native grasses were coming through thicker in that area. And in the Mulga regions, we have a lot of problems with bush called Charleville turkey bush. And I could see the same tools being implemented on that bush there, as to what they had in Argentina even. That’s just a small thing, but I think that’d be very beneficial, just a tool like that to our operation.

Pip Courtney [00:19:30]:

What about you Ellen?

Ellen Litchfield [00:19:32]:

Yeah, I think for me it’s also a bit of a mindset. So, I mean you sort of, the commonality that we found was that wherever you are, they are working to the opportunities that are available to them. So, you know, I went to South Africa and in the Karoo and over there, one of their obviously they utilised the high value and the benefits of having you know, a lot of tourism operations and agritourism to supplement their income. They also utilise the, you know, cheaper labour as well. And so in Australia, I think it’s really important that we work to our opportunities. So for us up here it’s our sheer scale does take, because of our, where I live, it’s you know, we’ve got really low stocking rates over really large areas. So, we can play to that strength in that you know, you can move things around a lot more, takes a lot longer for you to go into drought than, you know, than other areas. You know, a rain for us lasts a lot longer. So, it’s just getting better at utilising those, utilising that sort of method rather than trying to fit a production system that works better say in you know, down south where they get rain in spring then it lasts until you know, for 6 months. So, you know, it’s working to your advantages of your specific farm.

Pip Courtney [00:21:04]:

And Andrew, have you implemented anything new since you got back?

Andrew Rolfe [00:21:08]:

Yeah, so not necessarily in the drought preparedness stuff, but more in that business stuff is like, just what I’ve found really powerful is that like the commonality between those really top producers was in their business, their HR skills and their relationship skills. And it sort of was a common theme that I kept seeing of going, wow, like this is sort of where they’ve kicked their goals. And so really in the last sort of 6 months, there’s been a big push for our business to get that stuff really, really right and get our team right, but also our broader team, like our relationships with their contractors, like the people who we sell to and the whole, having that, you know, and they’re the people we rely on when it get, when the, you know, shit hits the fan, that’s the sort of people you do rely on. So, I think having that, yeah, that [inaudible] me with that relationships and that business stuff was just kept popping up.

Pip Courtney [00:21:59]:

Ellen, you mentioned social license. If city people see denuded landscapes, erosion, thin animals, what did you learn about social license that farmers need to get their heads around if they don’t get ahead of drought, prepare for it? Could impact on their social license to operate?

Ellen Litchfield [00:22:19]:

Yeah, definitely. And I think they do, you know, farmers are always trying to the best of their ability to prepare. No farmer wants skinny animals or denuded landscape because then they know that they’re not going to you know, it’s not going to recover as quickly. So that’s easy for me to say because I know a lot of farmers, but I can get from the outside that it can seem like, why didn’t they do something about that earlier? And I think it’s just getting things in place and the supplementary feeding programs, getting them in place early and making sure that farmers are being really proactive. The Future Drought Fund and things like this are really important so that all of those frameworks are in place before the drought happens.

And so, it’s not, you know, we’re not relying on you know, buy a bale of hay for a farmer so that they don’t lose their house once the drought’s already hit. I think it’s more about, as things continue to get even more volatile with commodity prices changing really rapidly and as well as climate change resulting in the climate being even more erratic, that we have these sort of programs and the infrastructure in place to support farmers to make the right decisions and make the right in a timely manner.

Pip Courtney [00:23:48]:

And Jesse, we’ve got a question here from our audience through Slido. The question is, that rainfall total is so low where you are in Israel, how are they managing their water accordingly?

Jesse Moody [00:24:02]:

From an irrigation point of view, I can’t say because I’m more of a pastoral person, but it looks like they’re doing a good job irrigation wise. They’ve got a lot of issues with salt and salinity in the region I am. So, they can’t necessarily, they’ve been telling me they can’t necessarily use the water that falls on the ground around them. So they use a lot of underwater aquifers, desal plants from the Dead Sea. But I’m at a kibbutz now and the amount of production they’ve got in such a small area tells me that they must be doing something right because they’re extremely self-sufficient where I am.

Pip Courtney [00:24:40]:

Yes, they’re very efficient, aren’t they? Can we have another question for you, Jesse. Can you tell us more about what you are researching and learning about in Israel?

Jesse Moody [00:24:52]:

I suppose the main theme of our focus here would be water efficiencies, really how efficient they are with their water use because they are world leaders in this front and with irrigation. So, at the moment we’re looking at the kibbutz area, at the moment we’re learning about how they manage their farm, but also how they manage the people that they work with how they manage relations there so that they don’t have any disputes. And I imagine that, well, we’re visiting a cannabis farm later on, so we’re going to look at their irrigation methods and how they farm those plants to the way they do. So yeah, I’d say it’s all cantered around water in this part of the world.

Pip Courtney [00:25:35]:

And here’s one a question again from a Slido, anyone can jump in and answer this one. How is Australia doing in terms of leading the way in sustainable agriculture? And conversely, what can we be doing better? Did you get a feeling like we’re leading with Regen Ag or drought resilience? Are we leading the way?

Andrew Rolfe [00:25:56]:

No, I don’t think we are.

Pip Courtney [00:25:56]:

Oh Andrew, that was very emphatic.

Andrew Rolfe [00:26:00]:

We are in places, but we visited the Netherlands and that was last year, and in terms of that sustainability stuff, it looks like, and New Zealand is what, about 10 years behind what they’re doing. We’re definitely in the front runners, but like, I feel like, we’re actually, I’m quite comfortable where Australia is in that space, personally. But in terms of like looking at, you know, obviously the carbon issues and the ESG issues and stuff like that, we’re definitely proactive, but there’s a lot more regulation and top-down stuff coming in in other, especially in Europe and in New Zealand. So, it’s obviously a diverse country and a very big country and it’s obviously, the hard thing about Australia especially, is it’s so, you can’t put rules around that for everybody. But yeah, I feel like in the next 10 years it’s going to be really [inaudible].

Pip Courtney [00:26:58]:

Ellen did you get a feeling for how we are in a, well, we love ranking things, don’t we? Because we like being at the top.

Ellen Litchfield [00:27:06]:

Yeah, definitely. And I mean, Australia did use to lead the way with our clean and green product, and obviously that’s you know, where our commodities go, to the high value markets. And I think as Rolfey mentioned, we have sort of slipped back and gotten a bit behind the 8 ball in the sustainability frameworks and in that sort of sector around the world. And I think a lot of that’s come from our, we were sort of slow to set emissions targets and meeting those sorts of carbon you know, targets across agriculture. And I know we do have them in place now, but the ones that are set at an industry level are sort of less recognised globally, it’s more when they’re talking about trade and stuff, they’re just looking at whatever the federal government’s doing.

But I do think at a sort of efficiency and what we can do with what we’ve got in terms of at a farm level, Australia’s definitely leading the way there, I mean Jesse mentioned that Israel is touted for its water efficiencies. But, you know, we grow a lot of really high value crops across Australia with very minimal irrigation. And we do have really strict water plans and policies to, you know, obviously there is some controversy there, but to ensure some environmental benefits as well. So yeah, I think we’re doing all the right things and we are moving forward.

Pip Courtney [00:28:40]:

Was there a big conversation about carbon, where the 3 of you went? And how that can help farmers be more drought resilient?

Jesse Moody [00:28:48]:

It’s been quite the buzzword at every conference we’ve been to. There’s a lot of talk around it and it’s about to take off in America in a big way. So with everything that’s gone in Australia, I think a lot of countries are starting to look to Australia to see how we’ve managed the carbon situation, how we’ve managed our carbon scheme. So, it’ll be interesting to see how those other countries take on board what we’ve been through, I’d say.

Pip Courtney [00:29:17]:

You were nodding there Andrew, can you add to that?

Andrew Rolfe [00:29:20]:

Yeah, so it’s been interesting. So like, obviously carbon, but what I’ve sort of seen is it’s evolving into that more, the ESG space, is sort of involving the whole picture of the biodiversity and you know, because obviously with carbon, looking at it singularly, it ends up with a diverse outcomes from it. And so what, especially we’re seeing in the wool industry and stuff at the moment in Australia, we’re seeing more focus on the whole picture in that whole ESG space, not only carbon and obviously, we all grow ruminant animals, so at the moment we’re bit of the devil, but that space seems to be evolving so quickly and it’s hard. I think producers are finding it really hard to get their head around that space at the moment, like what to do and what not to do in that.

Pip Courtney [00:30:10]:

And, when you come back to Australia, you come back to your farm, you bring ideas back for your business, but how do you share it with either people in your industry around the country or people within your region?

Ellen Litchfield [00:30:26]:

One of the ways that I’ve found really useful to share it is actually, and really rewarding for myself as well is you know, trying to get on different boards and advisory groups and councils. So, our it’s called the Landscape Board in South Australia, but I know in, I think it’s New South Wales, it’s Local Land Services that sort of… [lost connection]

Pip Courtney [00:30:52]:

Must be raining at Ellen’s place. We’ve lost her.

Andrew Rolfe [00:30:58]:

I can expand on that if you like Pip.

Pip Courtney [00:31:01]:

Yes. Thanks.

Andrew Rolfe [00:31:03]:

Well I haven’t finished mine yet, but as Ellen said, like trying to jump on those boards. Like there’s obviously a lot of space in your CDCs, RDCs and stuff like that to jump on. Like, there’s a Sheep Connect one in Australia, which I sit on, in New South Wales which I sit on. And also, those local farming system groups and to be around, like a lot of the extension in Australian agriculture now is driven by farmers. And so being involved in those groups seems to be a really good way to disseminate what we’ve learned.

Pip Courtney [00:31:32]:

And Jesse, did you find when, when, like, you are not back yet, but do you think you’ll be a great asset in your area when you come home?

Jesse Moody [00:31:42]:

I aim to be. I’ve been pretty mindful of how much I put on social media with my adventures. There’s a bit of tall poppy syndrome, a bit of jealousy about all the wonderful places we get to visit. So, I’ve had to manage that very strategically so to not antagonise anyone, but it’s a bit tricky in my neck of the woods because we’re, I’d argue we’re quite conservative around there, but there’s a lot of people around there trying different things. And as we get more and more awareness into these techniques and how they can benefit our pastures and our businesses, I think, people are sort of waiting to see the physical evidence of that and then they’ll start, it’ll make it easier for people like me to start expanding on my knowledge that I’m gaining through this scholarship. So, I suppose they’ve just got to wait and see what we can do in our businesses before they can put it on their own, if that makes sense.

Pip Courtney [00:32:42]:

And we have another question. Yeah, that makes sense. Another question here from Slido, were the other countries and overseas counterparts keen to engage with you and the program?

Ellen Litchfield [00:32:53]:

Yeah, I’ve definitely found that. It is amazing how willing people are to open up their farms and there’s nothing a farmer likes doing more than talking about what they’re doing on their farms. So having a captivated audience and that knowledge sharing was, yeah, it was really great and something that was a real highlight for me.

Pip Courtney [00:33:16]:

What about you, Andrew? Did you find people ready to open up, a bit of an edge when you get back?

Andrew Rolfe [00:33:22]:

Absolutely. Like, as we know in conversation, people love to present what they’re doing. And like if, and we’re like, the best thing about a group in Nuffield is that everyone’s engaged and excited to learn. So they get all these brilliant questions and they’re like, you find everyone, like the farmers open up and they’re quite like, you sneak a couple of questions and you build a level of the question up and then like they’re so happy to show what they’re doing, they’re proud of what they’re doing and it’s, you get so much enthusiasm out of those people too. Like, wherever we went, we’ve never had a really a problem with people being willing to show us and what they’re up to. Like we’re in Ontario province, in Canada, and we actually visited next door to where we were staying, was an Amish farm of all places. And we went and visited them that they’re happy to come and like, and that was something that was, you know, an amazing part of what we got to do. And they were like showing us what they were doing. It was like, even though it’s, you know, low technology and stuff, there was so many like little lessons in that too. And yeah, I think famers everywhere you go are quite, they’re proud of what they do, aren’t they?

Pip Courtney [00:34:27]:

They’re very generous. Have you been finding the Israelis generous with their knowledge? Andrew? Sorry, Jesse.

Jesse Moody [00:34:34]:

No, they, yeah, they have. I’ve only been here, this is my second full day here, third full day, but everything we’ve experienced so far, they’ve been very welcoming, very open with their homes and their businesses. At the Kibbutz, which is a bit of an agricultural commune here, they’re opening up everything. They’re showing us everything, how they live, how they eat. I’m struggling with the no meat concept. That’s a bit tough because it’s the vegetarian community. But besides that, they, they’ve been incredibly open to, in every facet of their business, very keen to share their knowledge and yeah, see how we can benefit from that.

Pip Courtney [00:35:18]:

And, and you are obviously looking at how they grow fruit and vegetables there, but what about livestock? What livestock information will you be able to bring back?

Jesse Moody [00:35:26]:

So they’ve got goats here, which they use for milk, but they run theirs in a much more intensive system to the rangeland open grazing system that I do. They haven’t confined and they feed a bit of hay, a few leftover veggies and things like that. So it’s, I don’t think I’ll be able to use many of the principles that they’re using here because it just doesn’t apply to me. Although I am surprised that their goats haven’t lost weight in a confined situation. Whereas my goats, if I lock them up for too long, they go backwards pretty quick. So that might be something I’ll be able to pick up from them.

Pip Courtney [00:36:02]:

And Ellen, what aspect of the Nuffield program have you enjoyed the most, apart from making a whole heap of lifelong friends that you’ll be connected with forever?

Ellen Litchfield [00:36:15]:

Yeah, I guess it was sort of gaining a greater understanding of how global Agri, sort of trade and politics works. You know, that’s something I think that’s really exciting and interesting about being in the agricultural industry is it’s so global and you know, universal, wherever you go, you’ve got something in, in common to talk with other farmers and you know, other people that are in the industry. So I really enjoyed that, and getting a sort of greater understanding of that. And through the Nuffield, I was also able to go to the UN’s Food Security Summit in Rome, which was fantastic. And sort of, because we get caught up in you know, our production systems and efficiencies and, you know, export tariffs and you know, our image and things like that, whereas for majority of the world, farming is about food and having enough to feed your own family.

You know, there’s hundreds and millions of sustenance farmers across Africa and Asia and we sometimes forget about those. So I think that was really good, being at the UN Summit to sort of bring it all back to, there’s a lot of different aspects to agriculture and we all can learn from each area and that’s why it’s really important that you know, when we’re talking about labels, so, you know, regenerative, sustainable, vegan, it’s not one size fits all, that every farmer and every farm is different and their sort of production goals are different. And that’s why everyone, you know, needs to sort of find their niche.

Pip Courtney [00:37:55]:

Andrew?

Andrew Rolfe [00:37:57]:

Yeah, obviously the friends, the networks I would keep coming back to, it has been amazing. But the fact that you get to like go and look at farms, like I’m obsessed with farms, I always have been, but you get to go around the world and look at all these other ways of doing farming and agriculture and business and like that whole thing is just so like exciting and energy driving, that has been, yeah, but also to go just talk to other people about what they’re doing and get their enthusiasm, like just that whole thing of being able to see other farms and like, it’s so interesting and I could just like do it forever. Like I’m, I’ve seen Jesse on the east GFP at the moment, I’m going just, I wish I was back there doing it again, like it was so good.

Pip Courtney [00:38:42]:

Now, Jesse, you touched on something before, which I’ve heard described as Nuffield disease, that when you get home some locals are a bit like, oh, who does he think he is or who does she think she is to tell us what we need to do? So, in places where the farming community, this question’s now come in on Slido, where a farming community is quite conservative, what have you found drives behaviour, behavioural change and my little rider would be, and how do you get it so that they will accept suggestions about change from you and you’re not seen as a bunch of smart alecs who’ve had a nice old trip overseas and come back now to tell everybody what to do and how to do it?

Jesse Moody [00:39:24]:

Yeah. I suppose that’s the tricky one, there, I suppose the best way I think is just evidence that what we’ve learned to put into practice works. I visited a local farmer the other day who was practicing with contour banks on his place and it was just, it was impressive to see the difference that it made that those little contour banks made across his place. And I think having stuff like that put into place on your property that you, and the other tools that we’ve learned from other graziers and ranchers from overseas, put into place on your property, will be very beneficial because, that way they can see whatever you’ve learned works and they’ll be more open to taking advice from you or asking for advice from you. So I think it all just comes down to evidence that what we’re doing is right, and if that works for us, it should work for them. That’s the only way I can see, one way I can see anyway, of them being more open to that and not just seeing us on a little joy round trip around the world.

Pip Courtney [00:40:33]:

Have you got a view on that Ellen?

Ellen Litchfield [00:40:35]:

Yeah, no, I think I, yeah, I agree with Jesse. It comes back down to evidence and practicing what you preach, be that you know, sort of husbandry changes on the farm or even just your attitude and you know, that willingness to try new things. And one of the things that we learned about was actually the Boston Cash Cow Model. So, you know, in within your business you’ve got your cash cow that just keeps on producing, but you’ve always got to have a few other projects on the side. And you know, you can have them in the developmental phase and, you know, just always trialling something new. And that’s something that I really noticed with the Nuffielders. You know, we went to a carrot farmer in Ireland that, you know, his cash cow used to be growing the carrots. Now it’s processing them and selling them and you know, we saw that time and time again, where you do these little side projects you keep on doing little side projects. Sure probably 9 out of 10 will fail, but that’s why you’ve still got your cash cow and then you know, one eventually gets up and that’s the, that’s the one that, you know, builds in that resilience or you know, adaptation.

Pip Courtney [00:41:46]:

Andrew, do you have a view about when you come home, how do you not get seen as a smart alec and you don’t want to get people’s backs up if they’ve been doing something for X number of generations, but you obviously want the information to be spread around, because you’ve been there and they haven’t.

Andrew Rolfe [00:42:02]:

Yeah, so the Monaro is also quite a conservative area. And so I agree with Jesse and Ellen, like it’s probably putting some of the stuff in place, but probably like not, you know, you’re not preaching to people and just having conversations and just, I think like, you know, people look over the fence. People like to be sticky beaks themselves, right? So, being open to having conversations with people and often people will sneak up and ask, how was that and how, what are you, why are you doing that? And then just being open and honest and we’ve sort of got an open farm policy, so every time there’s an opportunity, you know, to show off what we’re doing at home, like with trials or whatever it is, I’m like, just go, yep, going to be pain in the ass to set it all up, but it’s just come and come and visit and see what we’re doing. And I think have, just being open, that’s probably been the best thing, like, yeah, not preaching, just being open and willing to answer questions.

Pip Courtney [00:42:54]:

And another question’s come in on Slido. What things do you need to consider in your business or personal life before applying for the scholarship? Not everyone can leave their farm for weeks at a time.

Ellen Litchfield [00:43:10]:

Oh yeah, sorry, you go Jesse.

Jesse Moody [00:43:12]:

Well, I’m experiencing a lot of tough challenges at the moment being overseas, particularly from my partner. She’s missing out on quite a lot, so I have to be quite understanding of the situation she’s in by being back at home while I get to experience all these fun things. And aside from that you have to really be organised. You have to make sure that you’ve got enough cash flow to get you through these particular times and that your business can handle you being away. You don’t put shearing in the middle of GFP. You don’t put a cattle muster or a goat sale while you’re on a private tour, or a private individual study trip. So, you have to be very organised and make sure you got everything planned and everyone’s happy and content while you’re away.

Pip Courtney [00:44:06]:

Presents Jesse. I recommend presents on the way coming back.

Jesse Moody [00:44:11]:

Yep.

Ellen Litchfield [00:44:13]:

I got married and then 5 days later flew out on my GFP, so I was very lucky to have an understanding husband, but I think it was, you know, it’s easier when you don’t before you have children and my, you know, parents are still living on the same station as my husband and I, so that you know, helps share the load and. And then my husband came with me on the, on my like, individual study tour part for a couple of months, which was fantastic because then when you get home you’re not quite so annoying because you’ve got someone else that’s seen what you’ve seen and is just as excited as you are about, you know, trying different things. And yeah, so if you’re lucky enough to do that I highly recommend it because it, yeah, it really helps when you get back home and I think for us, you know, it sort of sets us up for the future in that, you know, we’re both you know, it really sort of shaped our values in farming together. So I was really lucky that that’s how it panned out for us.

Pip Courtney [00:45:14]:

Ellen, you might have just got Jesse in a bit of trouble if he didn’t bring his wife, but you took your husband. Andrew, what do you have to arrange? And for people who don’t know about Nuffield, how long can this trip be overseas? It’s not just a couple of weeks away, is it?

Andrew Rolfe [00:45:30]:

No, so it’s quite, like, so Jesse’s on his GFP at the moment, so that’s 4 to 5 weeks. And then before that, you have the compulsory stuff, that is the Contemporary Scholars, which is, for us, was 2 and a half weeks. And so they’re the compulsory parts of it. Well obviously, it’s all like, so they’re the parts that are locked in and then you’ve gotta do your 8 weeks of individual travel. So it’s quite a commitment for time, and obviously yeah, there’s a lot of benefit to that. So considering, you’ve probably gotta consider, you’ll probably be out for 14 weeks, in a part of it, and allowing some time to write your report and collate all your thoughts as well. So I would suggest if you have young children maybe consider putting it off for a few years, from my personal experience in that. That made it quite difficult.

But, I’ll again apply and yeah, just be in a place where your business, it’s actually really good for your business too because it means that you can get organised and you put things in place that you probably should have put in place before and policies, procedures and wait go, well this happens to do this and so it makes you be able to leave your business. And so then later down the track when you probably need to step away and have a good look at what you’re doing, you can do that stuff. And you hear, time and time again, and I’m not sure if it’s all Nuffield Scholars, not all the time, but they grow their business, double or triple their business after their Nuffield scholarship. And I’ve sort of seen that from like talking to all the older scholars and, and or change their direction slightly, but just like the, yeah, that ability to detach and I think that actually, that’s probably a benefit of it being, having to go away, even though it is stressful at the time,

Pip Courtney [00:47:15]:

That’s a massive return on your investment.

Andrew Rolfe [00:47:18]:

I think so. I think it’s, yeah, and I’ve already sort of seen that personally in, in personal development as well as the business stuff.

Pip Courtney [00:47:26]:

And a question’s come in on Slido, has the Nuffield Scholarship made you want to do further study or would you just get divorced if you went on another big trip?

Andrew Rolfe [00:47:42]:

Cautiously. I definitely do. And yeah, I think, just being coy about how I do it, definitely. like things like the Australian Company Directors thing and like stuff like that and you know, just got, you’ve had this firsthand knowledge and like learning, you know, if you’re not learning you’re dying, aren’t you? So I think that just ignites that you, what do you think Ellen?

Ellen Litchfield [00:48:06]:

Yeah I’d probably agree. That exact course. So I really liked the AICD course, Australian Companies Directors, really good. And yeah, I think it does, it really makes you wanna keep on sort of changing and evolving and it gets you realising that you know, you can do, you know, it’s a really privileged position to be able to be a farmer, so you can really change and modify your business as much as you want. And there’s no right or wrong way to do it. That’s what I found. You know, there’s people succeeding, doing everything. So as long as you’re trying and evolving then there’s no right or wrong. And so I think that was really good to see for me that, you know, yeah, there’s not an exact way that you have to do something. There’s no specific equation that’s gonna make your business more profitable and more resilient. It’s all about learning and focusing on what on what you think will work for you and the evolution of that.

Jesse Moody [00:49:09]:

I’d have to agree with Ellen.

Pip Courtney [00:49:15]:

Sorry, Jesse, we have the time delay, but yeah.

Jesse Moody [00:49:19]:

Sorry. No, I’d have to agree with Andrew and Ellen. Definitely there because, as you soon quickly realise when you’re part of the organisation, that a lot of the Nuffield Scholars are quite ambitious people and I think that’s where that enthusiasm comes from. Everyone just sort of wants to be their best self and they also wanna see everyone else succeed as well. So that’s why whenever we meet up together, we come away with this buzz of excitement and energy and after doing a Nuffield scholarship, you sort of want to grow off that, you want to expand off that so your business will benefit and your own personal development, whether it be with another course or you even want, you might wanna do a PhD in something, you just want to grow and it just sort of lights a fire in you. So I think yeah, definitely once you complete your Nuffield scholarship, you sort of see the world as your oyster and you just want to go from there.

Pip Courtney [00:50:19]:

This is for any of you, but the ESGs, they’re not really in the conversation, day-to-day conversation in Australia yet, but I sort of get a feeling that fast forward 5 years, ESGs will be mentioned a lot. Am I wrong? Did you feel like, overseas, yes, people are going to be using that in a lot of sentences, planning their businesses and always having it top of mind? Because it’s not there yet.

Andrew Rolfe [00:50:47]:

Absolutely. It’s going to be closer than 5 years I think Pip, personally. Even the conversations, every second one I have with like, local farmers, it’s about ESGs. But in that world stage, like even talking to my bank, like, in that ESG space. You can see, like the meat buyers are starting to look at it, you know, looking at it in the wool market. Like it’s all, and it’s not coming necessarily from government, it’s coming from the middle out, like from, you know, our suppliers, like who we’re supplying to and who’s supplying to us. It’s everywhere and I think, I’m glad it’s ESG and not just carbon, it means that is a bit broader picture in it and I think it’s an opportunity for Australia. We have got a good clean green image, we’ve got some fantastic farmers who produce, you know, with very little and are very efficient. So it’s probably chance for us to, you know, take the lead in this space and really open some markets up as well for us.

Pip Courtney [00:51:42]:

Well, Ellen, you were at the UN, so ESGs? Everyone uses it in day-to-day conversation?

Ellen Litchfield [00:51:51]:

Yeah, yep. So it’s all about ESGs and, you know, meeting their sustainable development goals and as Andrew said, we’re, Australia is in a good position to do that and we are seeing, it’s coming, that sort of social, you know, where that social license issue is coming from. You know, it’s the push from the consumer. So they’re pushing our buyers and our industry groups. So we’ve already been seeing a lot of different certification schemes and different programs to try and address this issue. But I think the ESGs are a much better way to sort of bring it all together. And you know, now we’re seeing the government’s Nature Repair Market Bill and just sort of that recognition for you know, the biodiversity and environmental benefits, ecosystem services that you’re doing on farm, be it either through monetary recognition or through recognition that your product is an environmentally, you know, sort of sound and sustainable product is, is really where [lost connection].

Pip Courtney [00:52:54]:

I think we’ll throw it over to you, Ellen, we’ve just lost you, but, Jesse, got any views on ESGs? We haven’t got much time left, but any views from the other side of the world for us?

Jesse Moody [00:53:07]:

I think certainly pastoral Australia can benefit it from it quite a bit considering the nature of our operations. I think Ellen touched on it quite well, it brings everything together quite nicely, so yeah, I think we we’ll be right.

Pip Courtney [00:53:26]:

One last question, and if you could keep it nice and tight, that’d be great. Now, applications for the 2024 Nuffield scholarships closed this Friday on the 9th of June. What would you say to somebody who’s watching now still undecided about whether they should apply or they think their daughter, son, nephew, niece should apply? What will they get out of it?

Jesse Moody [00:53:49]:

Just do it. You’ve got nothing to lose really. You get to see the world, you get to learn more about your favourite topics in Ag and if you’re passionate about Ag, it’s the place for you. So yeah, I think it’d be definitely worthwhile applying. I’m certainly enjoying the experience and I nearly pulled out of my application last minute. I’m glad I didn’t. So I encourage anyone to apply, definitely.

Ellen Litchfield [00:54:16]:

Yeah, definitely. Apply, talk about it with your family. They will be able to see the benefit. They might not quite understand why you need to go overseas for 18 weeks to become a better person or farmer. But you know, they’ll see it in your personality change, and they’ll be able to see how, yeah, how great it is for your personal development.

Andrew Rolfe [00:54:40]:

Definitely apply and there’d be a Nuffield Scholar in your area, ring them up and talk to ‘em about it. But definitely apply. It’s amazing, life changing and you’ll come out buzzing.

Pip Courtney [00:54:52]:

Thank you all 3, you have been fantastic talent and I wish I was over there with you, Jesse, I think you, you’d be able to find me a few Landline stories, so I’ll send you my email address later. Thanks for joining us. And before I go, I have to tell you, I interviewed a little girl at a country show and I said, what do you wanna do when you grow up? And she said, I wanna be like my dad and get lots of Nuffields. So I just love the idea that she thinks that you can have 10 Nuffields.

Andrew Rolfe [00:55:23]:

I wish.

Pip Courtney [00:55:23]:

You’re great. You’ve all got one each. So thank you very much for your time. We really appreciate it. And applications are open now for Nuffield’s 2024 scholarship program, which for the first time includes scholarships aimed specifically at drought resilience study topics due to an investment from the Future Drought Fund. As you heard, scholars will have the opportunity to travel overseas, to study drought resilience and learn from international leaders in the field. Each scholarship is valued at $35,000. Farmers and others working in food and fibre production, aged between 28 and 45 should apply now, but you’ll have to be quick. Applications close this Friday. And remember, as Andrew said, have your kids later. So find out more about the Nuffield drought resilience scholarships, at Nuffieldfield.com.au.

Back home now and the eastern wheat belt of Western Australia is at the pointy end of climate change. Support from the FDF and the CSIRO is exploring how saltbush can help fill food gaps in dryer times.

[Video voiceover begins]

Hayley Norman [00:56:57]:

So most of the species we use for agriculture in Australia are imported from overseas. There’s only two that we actually export. And Old Man saltbush is one of those species. So it’s widely adapted to the semi-arid zone of Australia, and we’ve bought it from the arid zone into the agricultural areas. It’s already really well adapted to drought, we’re just trying to make it more productive for agriculture. Anameka Saltbush is already widely adopted across Western Australia. With our Future Drought Funding, we’re going to take the plant to other areas where it’s not currently used, and we’re gonna demonstrate the benefits to farmers.

Sarah Rich [00:57:34]:

So here in the glasshouse and in controlled environment rooms at CSIRO, we’ve been researching the best way to successfully establish saltbush with the hope that eventually these saltbush can be seeded by growers instead of being planted via seedlings. One of the parts of this project is using self-regenerating pasture legumes underneath the saltbush. And what this allows is there to be a secondary feed source. The pasture legumes offer variety in the diet of the sheep, but they’re also fantastic as being legumes. They do fixed nitrogen in their roots, which will improve the soil. So these systems, combining saltbush and legume understory, set up a resilient area, often in less arable farming land, that allows a fill to the autumn feed gap in drier times.

Hayley Norman [00:58:23]:

Anameka Saltbush has been selected to have higher energy values, and that’s the key thing that’s really important in the farming systems. So our modelling and farmers are telling us that they’re making 20% more profit in these areas and reducing the risk within their farming systems. This Future Drought Fund project runs for 2 years. At the end of that time we’ll have established some shrub systems with a well-adapted legume understory. The producer groups then take those systems and use them and gather data to support further adoption. I’m really excited that CSIRO is partnering with the Future Drought Fund and the Drought Hub. I think we’ve brought a multidisciplinary approach to managing drought, and we’ve got some really exciting projects coming through.

[Video voiceover ends]

Pip Courtney [00:59:17]:

Haley Norman, helping improve profitability and reduce climate risks in WA. Alex Copper is a recently graduated PhD student from the University of Adelaide. His project investigated the use of indigenous Cypriot grape varieties for viticulture and oenology in the Australian wine industry. Alex has been working in the wine industry since 2002, and in that time has lived and worked in Eden Valley South Australia, Huon Valley Tasmania, Greece, Cyprus, Spain, and Germany. In 2021, he returned to South Australia’s Claire Valley to establish a vineyard with the Cypriot varieties that were the subject of his PhD. They’ve been shown to be drought and heat tolerant in Cyprus and in potted trials at the University of Adelaide. Alex works with an industry partner in the Barossa and at his own property to establish commercial scale vineyard trials. Here’s also a current Nuffield Australia farming scholar, and later this year will be traveling to Cyprus, Greece, Turkey, and Israel to investigate other potential drought tolerant varieties for importation to Australia. Alex, tell us more about your research and trial into drought tolerant grape varieties.

Alex Copper [01:00:40]:

Hi Pip, thanks for that. Yeah, so I finished my PhD in in 2022 and in 2010 I was lucky enough to be able to go to Cyprus and work with a guy called Dr. [inaudible] who passed away in 2014, but he was sort of integral in Cyprus in bringing back some of the indigenous varieties for use in the local wine making. And he did a lot of work to find some varieties that were almost missing to bring them back into use as well. So as you can see in that little red triangle, rectangle there, Cyprus is a pretty small dot in the Eastern Mediterranean surrounded by Turkey, Greece, Israel, and Egypt. It’s a bit of a unique situation being an island, in that it managed to escape Phylloxera that was in Europe and they’ve had, oh 5 and a half thousand years of wine making and wine growing, where they’ve been able to select varieties that were drought tolerant and heat tolerant and produce higher yields. It’s starting to modernise now, but if you look in the top two pictures there on the right-hand side, a lot of the vines are grown as bush vines. And then on the left you can see some trellising starting to come into use as well. So we call that, that sort of trellis a VSP, which is a vertical shoot position. So Cyprus is, it’s a pretty hot climate and generally rainfall is around 350 to 750. And the Pathos wine region is probably the region which equates most commonly to the South Australian regions of Barossa Valley and Clare Valley.

Three main varieties that they have there, but the two varieties I decided to concentrate on for my PhD was a white variety called Xynisteri and the red variety called Maratheftiko. The Xynisteri is the most widely planted variety and it’s got quite large bunches. They’re quite thick skinned, and very, very nice flavours. And Zambartas and Galet in the nineties, they sort of characterised it as fruity and flavours of white peach and lemon. We did a consumer and sensory trial and we got similar results with experts and with consumers as to what they found appealing with those grape varieties. So that’s the white one. And then the red one is Maratheftiko, which can be a little trickier to grow. It does have a few issues with fruit set, but if it’s managed in specific ways, you can get good fruit set and it produces nice wines as well, quite fruity, herbatious and floral varieties, and both of them are very drought tolerant and heat tolerant as well.

So the whole process was started back in probably around 2016 after I’d been working there for a few years. And each year, in particular, the Xynisteri would come in late in the year, and after a while I thought, hang on, there’s something going on here. What can I do with this? And that’s when I decided to jump in and try and import the varieties. And then along the way decided a PhD might be a good idea as well. So it’s not as simple as tucking some cuttings into your pocket and heading home. You have to source some disease-free material, which we managed to do through the Ag Department in Cyprus, which fortunately had aa nice source block, which they regularly tested for viruses and diseases.

So we took those cuttings through a Department of Ag application and got them into post-entry quarantine for 18 months in Victoria. So we start off with a bunch of sticks, hand them over to PEQ, and then they grow them up and at the end you get one vine of each variety to take away. So we had 18 months to do some work before we had any vines. So we set up a few different experiments to do in Cyprus plus imported some Cypriot wines so we could do some sensory and chemical analysis on it, but also do some consumer trials on that as well, like at the university.

[lost connection] to experimentation and into the vineyard. So I’ll just brush over what we did with some of the experiments. So we looked at some dry grown vineyards, we looked at bush vines and the VSP, the vertical shoot position vines, and we saw that they had quite good years, as is the case in drought research, it doesn’t always go to plan so those [inaudible] rainfall that we had, so in 18, 19 was far above what was normal. A couple of [inaudible] rain events, which lasted a couple of days, which were heavy storms, increased the rainfall for those years. We also did an [inaudible] variety in 19 and the irrigation did have a bit of an effect, but the level of irrigation didn’t have much of an effect on the Xynisteri, but we looked at, in 17, 18 and 19, we looked at Xynisteri, the white one, the red one plus a Shiraz and a Sauvignon Blanc.

And with all the dry grown vineyards, Xynisteri came out on top in terms of yield. The Maratheftiko did quite well as well. The bush vines always a bit less, lower yielding than the VSP, but overall the Xynisteri and the Maratheftiko yielded much better than Shiraz and Sauvignon Blanc. So in 2018, when the vines got released, we started to establish a couple of potted trials as well, just so just so we could have a look at what kind of levels of irrigation these varieties might do well with. So in 2019 in Cyprus, on the left there, we looked at two clones of Xynisteri and one of Sauvignon Blanc, and on the right in Australia, we had a few other issues with roos, so we had to set up a bit of a cage around our experiment. But we managed to propagate those top two left pictures there with the mother vines that we got through quarantine and now we’re able to propagate out some material into a trial for Australia as well.

So as we all know, in 20,21, 21, 22 and 22, 23 in Australia, we had the La Nina event, which isn’t great for when you’re trying to conduct drought trials. But we still managed to get some good results. And I promised I wouldn’t show too many, too much data, but this is just a bit of a summary of the two different potted trials, one in Cyprus and one in Adelaide. Overall we found that the biomass for both varieties benefit from irrigation but overall, Xynisteri coped best with lower levels of irrigation, particularly for root mass. So in the Cypriot year, we use two different clones of Xynisteri and one clone outperformed another clone, and that clone was sourced from a warmer region, the cooler region clone didn’t perform quite as well.

And then in Adelaide, the root mass for Xynisteri far outweighed all of Maratheftiko, Shiraz and Sauvignon Blanc. So when we got to the end of that trial, we had about 90 of the white and red varieties, and that’s when we started to look for an industry partner. And I started working with Paul Georgiadis at Paulmara Estates in Marananga in the Barossa Valley. And Paul was kind enough to plant out some vines for us and we were able to grow them in his vineyard and had the first harvest of them this year. Being the first year, it’s always a bit tricky anyway, and this year with the La Nina year, we didn’t get the heat that we wanted, and varieties were hanging around well into Easter, well past the normal ripening dates.

So it made things a bit tricky. So we managed to get some juice and we’ve had a look at that juice. And we’ve learnt some lessons from La Nina weather events and that is that hot, drought tolerant, heat tolerant varieties don’t necessarily like cool weather. Xynisteri in particular didn’t really like the cool La Nina year. Maratheftiko did better. But the Xynisteri, it got ripe, but it wasn’t probably at its optimum ripeness. So yeah, a bit of a tricky situation when you’ve got a La Nina weather event going on which sort of led us to have a think about what we might be looking at into the future. So definitely want to expand things out into other hot climate regions, potentially places like the Riverland in South Australia, the Riverina in New South Wales as well, and look at other irrigation trials to see what the actual irrigation limits for these varieties are.

So any winemaking, we’re gonna continue to look at the chemical analysis, the sensory analysis with expert panels and also consumer analysis as well. And as Pip mentioned, Nuffield scholars are heading off in October to Greece, Cyprus, Turkey, and hopefully Israel as well to have a look at a few more other varieties that might be hiding out there. So we’re gonna keep going, keep applying for grants and things and fortunate enough to have the Nuffield, but research isn’t cheap so they need to keep looking for further funding and potentially maybe look at some breeding or some gene editing of these varieties. And just one point I wanted to make was, if we’re bringing in varieties and looking at varieties to tolerate El Nino situations, if we have more La Nina events happening, what’s that going to mean in those La Nina years? Are we going to have worse harvests in those situations? So that’s my time unfortunately. So just acknowledging Nuffield for their support, Paulmara Estate in the Barossa Valley and also the University of Adelaide and Wine Australia.

Pip Courtney [01:11:31]:

Alex, thank you for being with us. You are a great advertisement for Nuffield and travelling around the world. I think if anyone was wondering if they should apply, I think you might have convinced them. It’s a fascinating area of study. I think a lot of people would like to know what do these grapes taste like? Will the Australian palate like them?

Alex Copper [01:11:49]:

Well, that was part of the reason for doing the consumer trials when we first got into it. We just didn’t wanna bring in a variety that that grew well, we wanted to make sure people liked it. So the consumer trial and the sensory trials, gave us some good results in terms of liking. So the Cypriot variety, the white one we put up against Pinot Gris and Chardonnay and it fared very well. Some consumers preferred it to the other two varieties. And the Maratheftiko red one we compared to Shiraz and again, people liked it as much, if not more than Shiraz. So definitely there’s consumer interest in it and we’re in blind studies in blind testing, they both show very well.

Pip Courtney [01:12:36]:

Consumer interest is good. What about winemaker interest?

Alex Copper [01:12:40]:

Yeah, I’ve had a lot of interest. Obviously, we’ve only had one season so it’s a bit hard to gauge the results. Paul’s very keen on the Xynisteri, in particular. Paul’s of Greek heritage, so it’s something he wants to add to his wine stable. But definitely I’ve got people contacting me regularly who are interested in it. So at the moment, propagating material numbers is an issue, so we’re slowly getting there where we’re able to start to spread into other regions and work with some new partners to try and get them to grow it as well and see what they can do with it.

Pip Courtney [01:13:21]:

I was struck by the generosity of the Ag department from Cyprus, that was very generous of them. Now we do have a question coming in from on Slido. Are Australian wine varieties already changing in line with climate projections and does this open opportunities for different export markets?

Alex Copper [01:13:41]:

There are, there’s a lot of work being done with clones, so the popular varieties of Shiraz, Cabernet and Chardonnay, there’s clonal work that that’s being done. Wine Australia is working on, there is a large source block of other varieties from different regions in Spain and Portugal and the like. So yes, those varieties are being looked at as well. And in terms of export, yes, I guess, but I think it’s going to take a lot to change markets to get used to Australia producing varieties that are more common in Europe. So I’m not sure whether we’d be able to export those varieties back to Europe, there’s a bit of an issue with Prosecco at the moment, so I’m not sure Italians would like us sending Prosecco back to them.

Pip Courtney [01:14:33]:

What piece of advice would you give to other non-wine-farming sectors around testing drought tolerant varieties? Any advice if someone wants to test barley or apples or…

Alex Copper [01:14:46]:

I guess we can’t control the weather and that’s the biggest issue, so maybe try and do it after a La Nina year when you’re, you know, you’re gonna get a hot dry season. But that’s always the thing with research, if you’re doing it in a field situation maybe you do it in in multiple locations, so you’ve got a good chance of success if the weather doesn’t suit what you’re trying to look at.

Pip Courtney [01:15:12]:

Dr. Alexander Copper, thank you very much for your time and good luck and I hope you can find a few more varieties out there around the world.

Alex Copper [01:15:21]:

Thank you very much.

Pip Courtney [01:15:24]:

Now to central Queensland where a husband-and-wife team are building drought resilience through a soil health trial. Hay producers Matt and Justine McLeod run Lake Pleasant in Goovigen, about a 90-minute drive south of Rockhampton. Thanks to an FDF grant they’re part of a large-scale trial to improve soil health and profitability ahead of drought.

[Video voiceover begins]

Dan Rea [01:16:13]:

Obviously, the Future Drought Fund is a huge investment in agriculture in Australia and the thing that we are most excited about is the focus on preparedness, because we all know the next drought is just around the corner. We’ve got some of the most innovative farmers in the world in Australia and being able to get them to try out all of the things that they want to work on is really exciting.

Matt McLeod [01:16:33]:

And we’re here at Lake Pleasant, we’re in the Callide Valley area, just Rockhampton side of Biloela.

Justine McLeod [01:16:38]:

It’s quite volatile here, so we tend to get a lot of rain and then really big spells that are dry.

Matt McLeod [01:16:44]:

When we first come here, a shower, rain or a storm would end up down the creek, not staying in our paddock. We had to irrigate for short periods of time because otherwise the water would run out of the paddock.

Justine McLeod [01:16:53]:

That’s getting drier and we’re getting much more, you know, unpredictable weather. So how do we survive in here, I’m like we just gotta catch it, right? Like, you know, build big dams and catch it and irrigate. The more I’ve learned and the more I’ve got, I’m like, well it’s not about catching it. It’s instead of creating all this energy and wasting all of this effort where you then get transpiration, you lose so much of it. How do you actually get nature to work with you and then get nature to hold onto it for us? One variable we wanted to look at was monoculture versus multispecies. Another one was compost versus no compost. Another one was worm juice and then also the synthetics. Gotta make it practical and large scale so it’s not like some sort of tiny test plot. So it’s literally 40 acres that we ended up carving out and putting aside for the trial.

Matt McLeod [01:17:40]:

For the Future Drought Funding, they’ve made it very durable in a short amount of time. The difference you see over the 96 plots is unbelievable. The soil is like chocolate cake. You also notice when we do apply the worm juice on our lucerne paddock that we do get quite a bit more yield. So sometimes up to 25%. We can go over to the paddock that have had that bio-frets applied, and the soil over there is amazing. It’s fluffy, the roots are holding it, there’s fungi on our roots, our soil over there has got life in it. We’ve created this home for the right insects, the right grubs, the right bugs.

Justine McLeod [01:18:24]:

In terms of preparing for the drought, there’s probably three key takeaways. One is that, you know, you wanna create that sore sponge so it all sort of sits in there and stays green for longer. And what we notice is that multispecies stays green for longer. The other thing is because the organic carbon increased in the multispecies, we saw that the water efficiency was better. The other one is the runoff. So you don’t see the same amount of runoff and it actually sort of absorbs into the soil. So yeah, whatever rain falls we end up catching it. I like the fact that it was so clear-cut. Multi-species, invest more in your soil, better water retention, better profitability. We know that we’re making a difference because we’re not watering as often and if we’re not watering as often, A it doesn’t cost as much money to water. B, we know that we’re gonna have enough water, we can actually make it from one rainfall to the next.

Matt McLeod [01:19:08]:

It’s about showing people that hey, this can really happen if you just make the change.

Dan Rea [01:19:13]:

So part of our role at FBA through the Drought Hub and supported by the Future Drought Fund is to be able to share the learnings and actually getting people boots on the ground. You know, getting their fingers in the dirt and seeing the difference that it’s making out in the paddock. The energy that it’s created around the field days and the open days and sharing the learning is really important. What we like to do is connect people and really make that community of practitioners that are trying to shape the way that farming is done in Australia in the future.

[Video voiceover ends]

Pip Courtney [01:19:54]:

That was Dan Rea from the Fitzroy Basin Authority, sharing the impact of their FDF Natural Resource Management grant in partnership with farmers Matt and Justine McLeod. Before we wind up for the day, a look ahead to the next phase of the Future Drought Fund and the work taking place behind the scenes away from the farm, with Louise Palfreyman from the FDF’S strategic Policy team. And Louise is here in the studio. Thanks for being here. You are the lady with the money to give out, so everybody, listen up. Here’s Louise.

Louise Palfreyman [01:20:28]:

Hello, my name is Louise Palfreyman and my role here at the Future Drought Fund is Director of Strategic Policy. As you can see, I’m coming to you today from Canberra and I hope you’ve been enjoying the forum as much as I have, hearing about the wonderful breadth of our Future Drought Fund programs. This afternoon, I’ll be talking to you about the next phase of the Fund. But before I begin, I’d like to acknowledge the traditional owners and custodians of the country throughout Australia and to acknowledge their continuing connection to land, waters, and community. I pay my respects to the people and the cultures and the elders past and present and I extend that recognition to the Traditional Custodians of all the other lands on which we are gathered today, and to the Aboriginal and Torres Strait Islander people who are intending today’s event.

As you may know, the Future Drought Fund is a 5-billion-dollar fund set up under legislation and our Act provides an investment and review framework with a 4-year drought resilience funding plan to guide our investments. A hundred million dollars is available each year to invest in building drought resilience with programs that have public good benefits. The fund has an ambitious agenda and that is to build economic resilience for an innovative and profitable agriculture sector, environmental resilience for a sustainable, improved functioning, founding landscapes and social resilience for resourceful and adaptable communities. This triple bottom line approach reflects a deliberate move to reflect the diversity of farm businesses, communities, and landscapes and their challenges and opportunities in building drought resilience. It also emphasises the important interconnectedness of these aspects of building resilience, working together as part of a complex system. The Fund commenced in July 2020, so we are just now closing out our third year of operation. During this time, we’ve established 16 programs which will provide strong foundations for us to build on for the next 4 years, with new funding available from July 2024. Our current programs are focused on building resilience through supporting resources and practices and capabilities, and this enables farmers and communities to make better decisions about how to best manage the risks and impacts of droughts, in their particular context.

Our programs fall under 4 interconnected themes of investment, and you’ll see them here on your screen. Firstly, we have the Better Climate Information theme, and this is all about enabling farmers business and communities to better understand the climate risks that they face and their resilience to those risks. This includes our investment in the Climate Services for Agriculture platform that brings together historical, seasonal, and future focused climate information. It has been designed to make climate information more accessible and useful for farmers, industry and regional communities. It also includes the Drought Resilience Self-Assessment Tool, which enables farmers anywhere in Australia to add farm scale data to the regional data sets and to understand their own farm scale resilience and see farm level climate change projections. Next, under the Better Planning theme, we are helping farmers and regions to proactively plan for drought. Under this theme of investment, we have programs being delivered in partnerships with the state and territory governments.

This includes the Farm Business Resilience Program where farmers can access subsidised learning and development opportunities in areas such as strategic business skills, risk management, natural resource management, and personal resilience. The program also supports specific farm business planning, tailored to the particular circumstances of that farmer. The Regional Drought Resilience Planning program supports regions to develop drought resilience plans to drive proactive management of drought risks. Plans are community-led and owned, through partnerships of local governments, regional organisations, community organisations and industry. Now coming to the Better Practices theme, we’re talking about developing and adopting farming and land management practices and technologies that improve resilience to drought. As I’m sure you know, the FDF established 8 Drought Resilience Adoption and Innovation Hubs, and that’s to provide regionally focused support to farmers and communities to adopt drought resilient practices and technologies. This investment sits alongside a range of other grant programs which support practice change.

That’s to encourage uptake of proven drought resilience practices, as well as promoting novel or innovative approaches, long-term trials and very soon, commercialisation support. There are over 200 projects operating in different parts of Australia to trial or showcase these changes and how we manage in changes in how we manage the land driving both productivity and sustainability through the drought cycle. Now lastly, we come to the Better Prepared Communities theme, where we are building and supporting the community leaders, networks and organisations that underpin community resilience. Our foundational programs focused on leadership and mentoring as well as fostering connectedness through community networks. And we now have an expanded and integrated program, which is providing tailored support to build capacity and capability in communities. This delivers a suite of support to help communities to identify and act on their drought resilience priorities at a grassroots level.

So where are we now? The Future Drought Fund is part way through a significant review place process as we move to the next phase of the Fund. So the Productivity Commission is currently undertaking an inquiry into the effectiveness of the Fund. This is required under our legislation. The Commission is considering the progress made to date towards building drought resilience and how farmers in their communities can be better supported to prepare for drought. They’ve sought public submissions to this process and an interim report is expected in June, which will be providing another opportunity for stakeholders to make contributions. So later this year after the Productivity Commission has concluded its work, the government will be seeking feedback to inform the funding strategy covering the next 4 years. It will seek to clarify the strategy behind the operation of the Fund, highlight areas for priority investment to ensure that the activities are targeted to drive impact and identify principles that will guide our funding decisions. This process will inform the next suite of programs to be delivered to help prepare farmers and regional communities for next droughts. And as provided by our Act, that’s 100 million dollars available each year to run drought resilience programs. The 4-year strategy and the programs will be announced in May as part of the budget, and the new funds are available from July 2024.

There are many inputs to the review process and there are lots of opportunities for people to have their say on the future direction of the Fund. Some of the inputs include the independent midterm evaluations of our many programs, and the productivity inquiry that I’ve just mentioned before.

The department will also be engaging with our delivery partners, including state and territory governments and Hubs, as well as farming sector representatives and lots of others, to consider what we’ve done well to date and how we can build on this. We’ll also be looking for gaps and opportunities. Our independent Consultative Committee will also be involved in the review process, and they’ll be engaging with stakeholders too. A question was asked earlier today, about the Committee process and I can confirm that the Committee comes to the end of their term in September, so we’ll have the benefit of our existing Committee looking at how well our programs have done, and we’ll have a new Committee appointed in mid-July. In September, we’ll be hosting workshops at the National Drought Forum before starting a public consultation process. In October, we’ll then be publicly releasing the Draft Funding Strategy and we’ll be seeking views on the framework and the priority are areas for action. This will be available on our website, and you’ll be able to submit your ideas and respond over a 6-week period. In addition, we’ll be working with government to ensure that the findings from other review processes are taken into account, including, very relevantly, the review into the National Drought Agreement and the review of the Australian Government Drought Plan. We’ll also be looking at existing programs on offer to reduce duplication and to make sure that we are creating interventions that will be in the most impactful places.

So if you are someone that has ideas on how we can best prepare farmers and regional communities to be ready for the future droughts, I’d encourage you to take part in the many opportunities that are available. We have 16 programs on the ground building resources and practices and capabilities, and those are to equip the Ag sector and regional communities to adapt and respond to this changing climate. Perhaps you’ve participated in one of our programs and you’d recommend it for others, and we’d be very interested to hear your story and understand the impact that it’s had on your farm or your family and your community, and what you think is going to help for when the next drought comes. You might have some recommendations for us on the value of particular programs, or have views on how our programs can be better targeted. You might also consider those different themes that of investment that I outlined earlier, and you might have a think about the relative priority of investing, either to understand climate risk and climate information better to proactively plan for drought, develop or adopting farming and land management practices and to build or support community leaders, networks and organisations.

Or perhaps you have something entirely new for us to put onto the table for our consideration. If you would like to have your say, you can go to the Productivity Commission website and you can engage with their independent inquiry, and that’s available now. You can also subscribe to receive alerts from the department about upcoming engagement opportunities for the FDF. This will let you know when the public consultation process has commenced later in this year in about October. And I do hope you will engage with these processes so that we can put together the best plan possible for over the next 4 years to help prepare Australia for the next drought. So thank you for your time and listening and I’ll be handing back to Pip now.

Pip Courtney [01:31:54]:

Thank you so much, Louise. That was Louise Paul Palfreyman from the Future Drought Fund’s Strategic Policy Team, bringing today’s program to a close. It’s been a great opening day here at the Science to Practice Forum. Thank you so much for being here. Tomorrow is Day 2. The program kicks off at 10:00 AM Eastern Standard Time, where you’ll hear from experts and novices alike on planning for profitability and productivity. Learn about tools for change and meet the 2022 Farmer of the Year, Michael Taylor. And I’ll leave you with the slide of the day, which is from Felicity Gamble, from the Bureau of Meteorology. The competition resumes tomorrow. See you tomorrow.

[Recording ends]

**Acknowledgement of Country**

We acknowledge the Traditional Custodians of Australia and their continuing connection to land and sea, waters, environment and community. We pay our respects to the Traditional Custodians of the lands we live and work on, their culture, and their Elders past and present.

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