GRDC In Conversation - Steve Madden

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**SPEAKERS**

Steve Madden, Oli Le Lievre

**Steve Madden** 00:00

We'll Steve firstly yeah, Welcome to GRDC In conversations. It's great to have you here we're chatting with different people involved in and around the grain sector. And I think your background, and Wee Waa itself will be really interesting to talk about. And then also the whole crop capsules piece and what yourself and Anna are up to with your business as well. So welcome. Thanks, Oli. Yeah, thanks for visiting us here in sunny Wee Waa and yeah interested to see how your podcast business goes into the future. Well done. No, thank you. It's it's definitely exciting. I think, yeah, when I get to meet other people, and they talk about their businesses and staff numbers and things like that, I can definitely commiserate a little bit in what people go through. But it's a great initiative, a good way to communicate what's happening out in agriculture, across the different regions, yeah well done. No thank you. It's nice to be up here. Tell me a little bit about Wee Waa as a town like you've been here for a little while. Since the early 90s. Yeah started working on the sixth of May 1991. So there was a lot more people back in those days, probably double I imagine. A lot more itinerant workers, particularly in the cotton chippers. A lot more people in on the farms, irrigating cultivating, yeah just a lot more people on farms. So I suppose that's probably been the biggest change that I've seen is the number of people in town. So it's a good little community. Obviously, communities like this, what you put into it is what you get out of it. And it's a great little town for coming in and being able to if you're keen to work and, you know, make a go of stuff, there's plenty of opportunities here in Wee Waa with the irrigation and the diversity of the crops and, and so forth. And I suppose that's, that's a big, big positive about the district. And am I right in thinking that your your family's not from a farming background. Uh nah my father was a headmaster. And he was brought up on a dairy farm. A lot of people were back in those days. But he's an avid gardener love growing vegetables and had enough in the backyard for the most of the district, not just ourselves. And I certainly got interested in growing vegetables when I was younger, through dad. And he broke his leg in an accident. Probably when he was about when I was about 15 or 16. It was my job to take over the veggie patch. So I certainly got a bit of interest in agriculture and growing stuff from that early age, but yeah. what did you do to end up out here at Wee Waa? so I had an uncle who I used to work for in the in school holidays and while I was at university, red Smith. He he was a farm manager. And he was probably the guy that got me really interested in the broadacre agriculture. I used to go wool pressing on his farm, and, or the farms that he managed. And I suppose he really astounded me the knowledge that he had with the, with the education that he had. And I'm not. That was just the way it was back in those days. I think he told me he left school when he was in year nine with an intermediate certificate. And he had a uncanny ability to know a lot of stuff on about farming, and operating farms and the decisions that he made really astounded me that he could do that with so little education. And, you know, he managed 20,000 sheep and 5000 cattle with including feedlots. And then he was able to go and manage hundreds 100,000 acres of wheat and win crop competitions. And it just fascinated me that someone could do that by just learning and thinking and just learning from other people. And that's probably what really got me interested in agriculture. And so from that time on was it the only pathway that you wanted to pursue? Yeah, pretty much. I did agriculture at school and I had a couple of passionate agricultural teachers, Steve Condon and Mick Holme and you know, they really tried hard to get us some good marks and good marks in our HSC back in those days but also create some interest in at the school with ag plots and you know sheep and showing cattle and visiting a few farms in the district and that's so that was a bit of a passion and I suppose yeah I looked at maybe doing some a university course through through that passion at school. Do you remember what those earlier aspirations were when you started to think of what you... Yeah pretty much to be a district agronomist with the with the local government.

**Oli Le Lievre** 05:29

Yep.

**Steve Madden** 05:30

And those back in those days, there wasn't a lot of agronomy, independent consultancy companies. And it was a lot of broadacre agronomists, so most of it was involved with Department of Ag. And when I left university, in 1990, there was a bit of a recession on and drought. And there wasn't many jobs available. It wasn't easy to get a job. There wasn't as many agronomists jobs as what there is now. And I suppose through connection with Reg, my uncle, I was able to get a start out here at Wee Waa, and it was pretty much I didn't really know where I was going then or what I wanted to do. And I thought it'd be a good way to get a bit of experience and maybe just do a year or two. But 33 years later, I'm still here. Haven't gone too far. So was that a district agronomy role that you'd stepped into? No no I didn't say a dstrict agronomist role here. No. I work for a company called Namoi rural traders. They were integrated company that supplied seed fertiliser, chemical and also did grading and and did some export of some products like chickpeas. So they had a splitting plant. And it was certainly a good start. It was mainly I was we were mainly focused on legumes. certainly good start to get a good grasp on, you know, fertiliser and chemical and seed and varieties and, and, and things like that. I worked there for four years. And yeah, I guess I'm interested because I've only ever known agronomists as being really private operators. When When did that transition happen? And kind of what did that look like? And you know what the reasons were for that transition? I suppose there was before my day before I came to Wee Waa, there was a lot of the chemical companies used to supply the bug checking. And a few other agronomists around the working for those bug checking, chemical companies decided to work for you know go out on as an independent agronomist. So that probably was back in in the 70s. When I came to town, there was half a dozen of those guys and Chris Lehmann and Jeff Brown were probably the the two leading agronomists back in those days. And they employed a range of bug checkers, and so forth. That's started in the 70s. But a lot of the private consulting in broadacre Agriculture, away from crops away from cotton really didn't happen till the 90s My recollection, and it certainly has grown, you know, as farmers have sought, you know, demanded more information and knowledge, the private consultancy firms have certainly increased in size and the services and information they transfer to the farmers. And it's certainly a big part of the farming and agriculture production. Typically in this area. When did you make the transition into the consol- into agronomy? So I worked for Namoi Rural traders for four years. And then I went and worked on a farm for a couple of years, I was asked to go and do some agronomy on the farm and help out on the farm. And Reggie always used to say to me that it's no good on a piece of paper, it's not practical and doesn't work on the farm. And I always remembered that so I thought a bit of practical experience would be good, learn how the farms operate. And it was an irrigation farm. So learn how the water operated and and just learn how machinery and some basic, basic stuff like that. So did a couple of years there and in the first year, I had an opportunity to go to Mississippi and the guy I was working for encouraged me to do that. And I went and worked for a consultant over in the Mississippi About a place called Clarksdale. And that was probably the biggest experience of you know my life really. And my work for a consultant over there it was, he was a Texan. But we had a consultancy business in Mississippi named Joe Townsend. And he was a very unique character. very loud, very,

**Oli Le Lievre** 10:26

Very Texan.

**Steve Madden** 10:27

very, very Texan very Texan. And I had a wonderful time working for him and learned a lot. And he was very helpful. He's really good mentor and kept in touch with him for a long period of time after that. But I suppose that was the real passion that drove me, working with him, and watching what he had done and how he was able to communicate with farmers and transfer that information and then talk to his farmers and the respect that the farmers had for him. I knew then that that's what I wanted to do. So it's just a matter of working out how to go about doing it. So my flow on question from that. So once you got back and had that amazing experience how'd you hit the ground running? Yeah so the guy that I was working for on the farm, I started doing his agronomy, John Palmer. And he had a share farmer there as well, Darren Webber, and pretty much it started from there was to continue to work on the farm and pick up a couple of farm next door another farm and I suppose those first few years wasn't, certainly wasn't great financially. You know, you virtually had no money sometimes to put fuel in the truck. You know, sometimes you're looking around now, John's brother Vinnie, I used to get a bit of fuel off him just so that I could get to work. And so it certainly wasn't easy. But it certainly was something that I really loved, enjoyed doing, being able to manage the crop for the grower and try and do your best to try and get the best result for them. And I suppose it was a challenge. But it was certainly something I wanted to do. And I put everything I could into it, you know, in those early days. And that sort of grew from there. I'm interested in this because I'd say I feel like it's we're similar in the sense of, there's a skill set that we have, which I guess becomes our product. For me, it's the podcast and the interviewing side. And I certainly probably haven't, haven't really put a value true value on what it's actually worth it. Did you find in those early years, it wasn't about trying to earn dollars, it was about earning that experience and the stripes? correct. Correct. I wasn't even interested. I didn't even know what to charge. And it really didn't worry me too much, as long as I wasn't charging more than the other guys. But yeah, it wasn't what it certainly wasn't about the money. It was about trying to get to the standard that the other guys were in the industry that walks at the Jeff Browns and, and, and those sorts of consultants to be able to manage the crop and know that what you were doing that was the focus, you know, and to do it properly. Not to do it half hearted, but it was a lot harder to learn back in, shouldn't say harder, but it was not as easy with the information packages that you have now that you can get off internet and Google and so forth. So he really had to know where to get resources and, and learn learn that way. Because I was sort of, on my own. I wasn't working in underneath another agronomist. So that wasn't, that wasn't overly easy. But I did a lot of research and thinking and and a lot of after hours work to try and upskill myself in what what needed to be done. Was there a defining moment for you, you reckon where it started to really come together and you hit your groove? I suppose, when I met my wife and Anna is an agronomist as well is is an agronomist not was it is still is. So when we met, I was doing some farms and Anna was doing some farmers, so it was actually my uncle that introduced us out on a on a large Dryland a farm about half an hour from here. So once we sort of got together and started to work together and it sort of became turbocharged agronomy, you know, so, that was probably you know, I mean, we I had some clients that I was working with, prior to that and Anna was working with a company at Moree once we sort of established our relationship, we moved in and started our business together. And that's probably, you know, like I say turbocharged things. Certainly I think the same is that the two of you just work harder than the other. A bit on between you It's been a It is a long, long, long process with cotton. It's, you know, it's seven days a week. It's, it's it's not five and six and 8, 10 hours a day, it can be 12 and more. So it Yeah, it's what you put into it is what you get out of it. You know, you can you can do it just nine to five, but you're not, it's not gonna work. If you want to be success, and you know, you have to have a reasonable sized business that can provide a future for yourself. It's not going to work if you don't nine and five. Would you say that those early interests that your uncle Reg had put on you like, is it still there that that real passion? definitely. And it's not just, it's the work ethic, he was always up early, he did a lot of work. After hours, he did weekend stuff. And I suppose it's, it's, it's that and my parents had that as well. And I should say, My auntie, she was also a big factor in Reg's life as well. She did a lot of the cooking for the shearers, she ran the books and the phone and she was magnificent organiser and worked from daylight to dark as well. And yeah I suppose the combination of my parents and auntie and my uncle, it certainly gave you a lot of work a bit of work ethic, and know that things aren't easy. And if you're going to, you know, achieve anything, you've got to get out and have a bit of a go, you got to fall over a lot of times too. And it's a matter of getting back up and making sure that you learn and that was one thing, my father always said to me that, you know, do your best and don't quit, you know, and if you don't, if you if you do that you'll be a winner. And I suppose always just taking that sort of attitude. But there has been, you know, a lot of guys it's just not reg as well, but he was certainly the first but a lot of people in agriculture that they love to help you, you know, and they love to see young people do well, if they're keen and I think if you try and learn off those older people, you can really get ahead quickly. And that's what I found with there's a guy called Alan Young, he actually showed me how to bug check. He was a farmer, and again I think he left school when he's about year eight, and there wasn't anything that he couldn't do. And I suppose that's a great thing about agriculture is you know, if you've got skills and a willingness to learn, there's so much you can do. And Alan actually, he was 60, something and a farmer, and he showed me how to bug check. And I still find that amazing that he had to actually learn how to do that himself. And we the first crop, I think I checked was with him. And he we've decided to spray it this day and that day, and he really gave me a bit of a go and made and made sure that I was thinking on the right on the right track. And you know, it was all about making your recommendations and making sure you're doing the right thing by the crop. Yeah cool. Tell me, Wee Waa is obviously changing, about, I guess just with the advancements of especially cotton in the area here but but for you what what have you really noticed as things that have evolved and changed for the better across your career, Certainly less spraying on the cotton. That's been the biggest positive. And you know, the research of the cotton industry has done researchers that have been involved at the Research Institute have had a big impact on that. So when I think of cotton fields, we've been treated 14 1516 times you know with insecticide when I first started managing crops. Now, you know, at this point in time this season, we haven't treated treated fields at all. So it's, it's that's been the biggest change in in the cotton. The less insecticide that we're using, and then the other thing is is the yields. The yields have really been able to be gained every year. And so we're nearly double what we were getting pretty much double what we were getting when I first started checking that's 30, 28 years ago, I suppose. So that's that's been a very big positive impact on on cotton and the Quality, the producers be able to produce , it's a better quality product. I suppose the other major thing is that the technology with irrigation and growers just being able to manage their crops better, you know from the word go, I think they're very efficient with their water use very efficient with their fertiliser use, and just very efficient with their resources. And you seeing the similarities in the carry overs between, say the cotton and the grains? Yes, certainly, it's just not cotton, we check on range of crops. You know, in wheat, and barley, and sorghum, chickpeas and faba beans, and the improvements are all through there. But I think cotton has probably been the leader, you know, and a lot of that has to do with a lot of its to do with the researchers. Buyt there's also a lot of it's to do, it's the agronomist and the consultants and the growers working together and managing the crops better. And I think that's a cotton industry is probably just a very leading part of agriculture in Australia, but also in the world. And I think some of the work that those early consultants and early growers have done about sharing information across the industry has been a really big advancement of how it's, you know, adapted and grown. So let's chat about one of the other areas you're involved in. And so Well, Anna was able to educate me a little bit around biologicals, because I was saying to her, when I think of biologicals, I've probably only started to hear about them over the last few years. And I learned that what we're putting on the faba beans before we're sowing them was actually the biological when they were going down the chute. And I guess that's how I was thinking, but but you've been really actively involved in in the insect side of things and introducing. Yeah, insects and other pieces into into the crop. Can you just explain to us like, yeah, firstly, for someone who absolutely knows nothing like what is a biological and how are they used? Yeah so I suppose the biological can be a range of things, whether it's a an insect or a fungus or bacteria. Yeah, it's just a natural product, I suppose that we've been, I suppose the IPM integrated pest management and the, the, the positive impact of beneficials can have on your crop, as you know, has been widely used and transitioned right through our industry for a long time. I think it was back in about 2014. We started to get a pest here called silver leg whitefly, and they'd had issues with it an Emerald that had issues at St George, and we, we were told by the research, they didn't think we'd have a problem here, but we ended up with a problem. And it was pretty severe in the first year. So it's a whitefly that secretes a honeydew. And it can downgrade your cotton lint in colour, and also, the honeydew can be a problem with the spinning. There can be a very big issue with cotton and it has been in Arizona and California. I think for years, but they've been able to manage the pest as well. So I suppose we were doing a lot of the, to manage the past, we were doing a lot of the things that our researchers were telling us to do, you know, the IPM road and using a soft chemical and spraying the products at a certain period. And we still found that we're having issues with the best and mainly with coloured dis disgrades, and which was costing growers you know, over 567 $800 per hectare, depending on the yield and the downgrade in the colour. So the thought is possibly a better way to manage this or there's must be another way to manage it. So we looked at what the only horticulture was because they get a lot of whitefly and rockmelon tomatoes and, and other vegetable crops and I just Googled one night what they were doing and yeah, the horticulture industry was releasing little wasps in their vegetable patches. Yeah, all round Bowen and a few other places to manage the Silverlege whitefly. So I rang a couple of researchers and a couple of growers and been involved with the beneficials about whether they thought it would work in cotton, and they said yeah, it should, give it a go. So because we had our own little farm here, we were able to Do a few trials and, and they were pretty positive. Anna and I spent a lot of time hand releasing at night and, and through the crop through the day and so forth. And we found that there that we're getting some positive results. So I suppose that was in about 2016 or 17, I can't, if my memory serves me correctly, somewhere around there. And then we spoke to a couple of farmers. One was Luke and Luke and Robin Finley. And their father Bill. He was a cotton fanatic, and Anna and I used to work for Bill years ago, and he was another guy, I suppose that really astounded me what he knew in a cotton field, and the passion that he had for cotton. And he often would have a sweep net, looking at looking sweeping the cotton and looking for beneficials in the crop. And he was probably well into his 60s at that stage. And it really amazed me how much passion that he had for for cotton. And he'd get me to put out the lacewing larvae on, on on cards and the next week, we'd have to check to see with the lace lace winger in the fields. And Bill, tell me about how he he tried to fly beneficials on any farms in America. And it always stuck in my mind about how he tried this. So I suppose we got thinking about the hayati, we could hand release them, and we get a good result. But there's no way you could handle at least 10s of 1000s of hectares. It's just impossible. So we came up with an idea about putting them in a little capsule and, and dropping them out of a plane. And a few people said we were mad, and I probably thought I was too. And it actually it actually worked better than than I thought it would. And yeah I suppose that's the start of it all. How did it go from being an idea around the capsule to actually being physically implemented and trial? Yeah, it was a it was a long hard process. We were doing we were doing a little bit with releasing and from drones. We found the drones cumbersome. It was too hot, you couldn't use it. It was too windy, you couldn't it, If it rained, you couldn't use it. So there was another consultant as well that was interested in using them. Mike stone Mooree. And I mentioned to him about the idea of dropping him out of a capsule and he thought it was a great idea. And I suppose he's he's thinking that Mike's a leading consultant in industry and I suppose once he sort of thought it was a good idea, that gave me the confidence to give it a bit of a go. And I was telling a mate that I went to university with about the idea. And he was sort of finishing up in Melbourne. And he liked the idea he did a did a bit of research. And he's he decided to sort of come and help me with the project. And I suppose he had a bit of some background, no real background knowledge in agriculture, but background knowledge in food and food technology. And that was certainly beneficial in in getting it going had some contacts that could injection mould the product and pretty much from there. Yeah, it was a slow process. But we we got it going. I got a local guy here. David Johnson from crockwell to build build a hopper that we could put capsules in the plane. And he he developed it so that we could release so many per hectare and I have a have a good rate. There was a you know, a distribution was even across the field. And a little bit of a few changes along the way with his product, but it ended up working pretty well. And I suppose that's been the story of So I think well, I was gonna say what what the capsule reminds me of is nearly what's inside those Kinder Surprises about the same size? Yeah, yeah.

**Oli Le Lievre** 29:39

A few other goodies come out of it.

**Steve Madden** 29:40

You're not the first person that said that. Yeah. And then in my head, I was thinking that it was literally a pilot, just dropping it out the window, but it is very it has to be really quite precise. Yeah, it's precise so that we can get a good even distribution. The hoppers are Kassar approved, so that you know They're, they're allowed to be put in planes.

**Oli Le Lievre** 30:03

Yeah.

**Steve Madden** 30:03

And we're able to get them out very quickly. So then the wasps can emerge, that's the key to it is, is they've got to survive. So they're released as a larvae, they've got to survive. And they got to find a mate. So the males usually emerged first, they mate with the females and the females go off and lay eggs in the white fly larvae and then they reproduce in in a couple of weeks or more and then go and take out more whitefly. So the capsule has been able to increase the survival of the wasps and that mating process, yeah. What do you reckon the opportunity is with with the capsules themselves, but across also broadacre agriculture? What is the opportunity with being able to introduce biologicals like this? It's certainly because you can do big areas very quickly. And it can be you know, it's not I wouldn't call it it's not a you're not putting out bushfires, we're inoculating the crops. So that we as soon as we start seeing the pests, we release the beneficials. And then they sort of stopp the pests from getting out of control or becoming a problem. So we're releasing them very early. We've been doing some work in corn with trigger grammar. We've been doing work in canola, for aphids with aphid wash. We've done some releasing pecan orchards this year with trichogramma. So I think there's certainly a big opportunity for a range of applications. It's just not easy to get hold of the good bugs. That's the big difficult thing because they're not reared in massive numbers. That's required in broadacre. So I think the when we started to do the hayati insecretaries may have been rearing. You know, hundreds of 1000s of wasps each year. Now they're up to 30 to 40 to 50 million of them.

**Oli Le Lievre** 31:07

Wow.

**Steve Madden** 31:18

So it's not easy to do that either. And yeah. So that's probably the hardest part is to get hold of the the good bugs. And then have the growers scheduled to use them at the right time. Yeah. How'd the trials in canola go? Variable. So we had some good results on some fields and some farms, and not so good on our farms. So we've been doing that for a couple of years now. We're involved with a GRDC project next year with Cesar and hopefully trying to look at release rates or release timings and specific species of aphids or specific species of the of the Wasp for those specific aphids to see if we can get some improvement. So the results weren't conclusive, but we had did have some positive positive farms that that worked okay. t So watch this space, watch this space. Hopefully, we'll learn some more, more with some GRDC project that's happening over the next few years. And yeah. fantastic, and I guess, a couple of questions to round it out. For you, what do you see as the next, I guess, frontier of opportunity in broadacre Ag, and what you're seeing?

33:52

Well I think it's probably going to be dominated by the consumer. You know, what the products that they they're going to demand, you know, less pesticides, more carbon friendly. And I think that the producers have got to align with that may well happen a lot quicker than we think. Those bigger corporate farmers will be able to meet those demands a little bit easier, think if you you know the family farm, if they want to be able to be in that space, they've really got to, you know, either piggyback on on someone else or get on the front foot. It's not that we don't produce good products now, but it's can always be done better, and it will be done better. The way that we're doing now, certainly won't be doing that in a 20 and 30 years, it'll be totally, very different. So I think that's what my wife and I have always tried to do With our agronomy business is to try and be on the front foot with that changing scenario happens in agriculture because it's happening quicker and quicker. And, you know, as an agronomist, or as a business, you really got to embrace the change because if you don't, if you keep doing it like you are, it's not gonna, it's not gonna it's not gonna be the will not gonna be that way in the future. So you just got to keep trying to change, try things and then get and try and get better and improve

**Steve Madden** 35:31

How have you found like with the also the increase in information going from back in the day when it was an evening you read whatever publications are coming out to now it's, it's there all the time? How do you how do you go sifting through what's useful? Certainly, yeah, I suppose you gotta find what's useful and what's not useful. I suppose I've had links with other consultants in other areas that and that's been a big, big help, talking on the phone with experienced guys. Probably one of the leading best agronomist, very technical, I call him King consultant, Jamie Street from St. George, I was very fortunate to develop a relationship with him and he, he knew a lot of and did a lot of research and he was able to see you talking to those types of types of people, you could really cut out what you needed, what was good and what was bad. They're in the same game as you and so that's certainly a big help. But I suppose it's just a matter of research is good, but it's not all like I used to always say, if it doesn't my work on paper, if it doesn't work in the paddock, it's not, you know, not too good. Not gonna be too much good for the farmer. So it's just a matter of that and experience and asking asking other farmers as well, like, farmers have been growing these crops for 30 and 40 years, and a lot of the guys that I work for, I learn off every day, whether it's good, bad or indifferent, but I've learned so much off all the growers that I've worked for, and listening to how they, how they produce their crops and their thoughts, because they're doing the research as well. So you can learn so much from your farmers. And you're able to communicate that to other farmers. And that's probably what agronomy is really, but I think, you know, learning from you got to learn to know who to learn from, and that probably takes experience too. Yeah, absolutely. Well, Steve, thank you so much for having us and for sitting down for a chat. It's been fantastic. Yes. Yeah it's great Oli. And once again, thanks for coming all the way to Wee Waa from Geelong. And hope to see you again soon. Thank you. Thank you, and we'll keep our eyes peeled for how this GRDC trial goes next year. Yeah certainly. I'm looking forward to it. Perfect. Thank you.