GRDC In Conversation - Greg Rummary

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**SPEAKERS**

Oli Le Lievre, Greg Rummary

**Oli Le Lievre** 00:00

So, I guess Yeah, starting off, Greg, you're the next chapter in GRDC In Conversations I think, for for your background. What we're doing is we know GRDC do so much work in and around research, development and extension. And what we're here to do is understand who are some of the humans involved in Australia's grain sector and we're out here, probably not too many better spots than where we are this morning. Welcome.

**Greg Rummary** 00:29

Thank you. Thank you for the opportunity. And, and welcome to Brooksdale. As you say, down on the Namoi River, just upstream from Walgett. Yeah, so good little part of the world.

**Oli Le Lievre** 00:40

So not the listeners won't be enjoying this like we are. Can you paint a bit of a picture of of where we're sitting and where we are this morning?

**Greg Rummary** 00:46

So yeah, so obviously Walgett, so Northwest plains in New South Wales, you know, 270 kilometres north of Dubbo 200 odd kilometres, West southwest of Moree. Yeah, that's sort of part of the state, where we're sitting at the moment is on the Namoi River. So this so the Namoi river runs into the Barwon river at Walgett. So this is the bottom end of the Namoi system. We're sitting in a lovely area of river and corridor that hasn't been interrupted too much over its history, I suppose in terms of European influence. Yeah. So you're looking at a pretty significant area of of old growth, I suppose. Collarbone, river redgum. River and corridor, which a lovely part of the landscape.

**Oli Le Lievre** 01:32

And hopefully our listeners can pick up the birds and insects and other animals that are in the backyard. Tell me more about this little area here. So you mentioned it's a bit of a corridor. How are you guys managing that? And I guess what are the benefits to you guys?

**Greg Rummary** 01:46

Yeah, so you know, there's a real contrast on this farm. Here we are sitting down in this lovely river and corridor. But if we just go 500 metres that way, we get up onto the level floodplain. And you know, and largely that landscape is developed for agriculture. So on this particular farm that's developed for a dryland farming operation, other parts of the of the region, it's still under a grazing use, but nonetheless, it's used for an agricultural outcome. Whereas this particular area we're sitting in here, really hasn't seen an agricultural land use for a significant period of time, possibly the best part of I would say 50 years, I think, the block that I now farm, here, Brooksdale, was farmed in 1970, or 1971. So 51 or two years, or whatever that is. And I would think since the level floodplain country was farmed, this particular part of the river and corridor hasn't been subject to really any agricultural use. So you know, grazing. And that's probably what makes it special. Or so special. What do we do here we, we value the importance of this riverine corridor and appreciate it for what it is, and the conservation outcomes that it can provide. And I suppose I, I say that with a smile on my face, from the point of view that I know how I know how much I enjoy when I get out of this riverine corridor, it's a great place to come and take time out and listen to the birds, whistle and so forth. But I know how productive our landscape is just just up on the floodplain in terms of a dryland farming operation also.

**Oli Le Lievre** 03:23

And so can I ask, like, knowing how productive it is just 500 metres away, why wouldn't you guys find this area with the potential value that could come from it?

**Greg Rummary** 03:33

So something I guess I'm curious about is that, as you said 500 metres away, it's productive farming country. You guys are also going pretty hard at it up there. You're involved in agronomy. So there are various things that you guys are applying there, how do you make sure that doesn't impact and affect the ecosystem you're growing here?

03:33

Yeah, well, I suppose you can look around and again, was not really farming country as in you know, we dropped, we dropped into the, into the true Riverine corridor. So it's no longer a flat level floodplain. It's obviously obviously a floodplain, but it's got secondary channels, and worrenballs, and, and, and so forth. And, and I suppose when we actually bought this place, there was an area of country just to the upstream from us here that was farmed, that we've fenced off and no longer farm, because we looked at it and thought it was undulating, runs water more easily, which means that you don't capture it in the soil to grow a crop on and those sorts of things. And we thought the best use for that is to let it go back to some form of either grazing and or natural vegetation state. And that's what we've done. Probably for the for the benefit of the listeners, the area that's developed on this land holding, we have an agreement with New South Wales State government, under the bio Biodiversity Conservation Trust so the BCT, that's been in operation there for about five years, I think. So we recognise the importance of it and we got them involved to to capture value, I suppose in try and capture some value in that important.

**Greg Rummary** 04:17

Yeah, I think so our floodplain country that's been largely developed from for from a dryland cropping or an agricultural use, but dryland cropping, irrigated agriculture in some parts of the floodplain, or a grazing outcome, I suppose it's just recognising the importance of the corridors in the landscape corridors, like the one we sit in and going well, they're really important parts of this landscape. Anyone who flies over the Northwest plains in an aircraft will quickly realise that the water lines, and the ridge lines across the landscape are few and far between. And so they become pretty significant connective areas. Whereas the floodplains more generally, you know, in our environment, probably had a very different contribution to the overall system in that the floodplain when it's dry, doesn't really have any natural watering points on it at all. And all, you know, in pre European times, in those dry periods, it was only really the water courses such as the Namoi river that would have had water in them, there'd be no other watering points across the landscape. And so the floodplain generally sees the extremes of this environment. So in times of flooding, yes, it's under water. And then in times of drought, there's no watering point on it. And so the vegetation systems and now subsequently, with the arrival of Europeans, the agricultural systems, or the mechanised agricultural systems that are now laid out across that landscape and more, you know, reflect that variability in the environment.

**Oli Le Lievre** 06:35

Let's turn it back to a younger Greg. Greg, before you were out here in Walgett, and you grew up or, born in Canberra grew up on the northeast slopes of New South Wales. What was it about agriculture as a young fellow that you fell in love with?

**Greg Rummary** 06:49

Yeah, well, that's a really good question, because I don't know. You know, I didn't come to Walgett as you say, I grew up on the New England, Western New England, between Tamworth and Armidale, went to university in Armadile and kind of Walgett really by default, as it happened, you know, arrived out here on a motorbike in 1988, November 1988. With a bag on the back of it,

**Oli Le Lievre** 07:12

We could say chasing love.

**Greg Rummary** 07:14

Well, yeah, absolutely. So my girlfriend at the time, who is now my wife, she had taken a teaching role out here in town. And so I said, Well, when I finish uni, we'll come out to Walgett and see what happened from there. So that was the introduction to Walgett for me. And so my association with agriculture, other than I'd grown up largely on a farm, or certainly the second half of my childhood, you know, from sort of eight to 10 years old through to coming to Walgett at the age of, say, 21, or something 21 or 22. I'd been involved in agriculture. But it's funny, I'd never really thought that I would settle on a career in agriculture. I mean, I did a degree at University in New England in, in natural resource management. I was very interested in managing natural resources, not necessarily, you know, conservation, per se, but how do we manage our natural resources? That was probably the bit that interested me. And so career paths in say, forestry or soil conservation or so forth, we're probably somewhere where I thought I might have landed. But that's not what the opportunities presented when I came to Walgett. Soon enough, Upon arriving at Walgett, you know, there was a job advertised as a technical officer with the Department of Ag working on a grains, well it was a wheat fund, a wheat industry funded programme in those days, this is prior to GRDC. Looking at Tropical grass establishment on old degraded cropland, so that's where I started as a technical officer, and then, you know, a year or so into that role, the opportunity to step into the district agronomist role. So with a New South Wales Department of Agriculture, the opportunity came to step into that role. And I made application to that and was successful. So at that point, I was now a district agronomist with technically no agronomy training. But clearly an interest in landscapes and and wildlife at that stage for my partner and I, yeah, we were enjoying it. There was no reason to up stumps and leave, pull up stumps and leave. So when I took the job as a district agronomist I then, I said to the Department of Agriculture at the time as part of that acceptance, I said rightio, but how about I go back, You fund me through some sort of formal qualification in agronomy, or ag science, which is what what I then did, so they funded it. And I went through Wagga and did a graduate diploma in ag science externally over the years. I think it was 92 or 93. And that was really good. That was a tremendous experience because I was actually working in the field at that stage with the Department of Ag and then had the opportunity to go away twice yearly to Wagga for practical residential schools or whatever. And just a bit more maturity and a bit more. You know, it's just a bit more apply in terms of the learning. So when I came out of that, yeah, I had a pretty good. I thought I had a pretty good handle on how agronomy fits, you know that that whole world of agronomy, how that fits in the agricultural landscape. And I really look at agronomy, as such as a lot of people say to me, Well, what's an agronomist do? And I often say, 'Well, we're the ones that take the science, through to the application of that at a farm level, we're the ones in the middle there trying to make all that work, and how do you make, to get the mechanism of that working?' You know, I actually, I think I've said this to someone the other day, I often joke about the role of agronomy, you know, that transition from science through to application and we have this a simple saying that the science measures with a micrometre. So the science is very accurate measure with a micrometre. The agronomist like me, are typically marking with a pencil, but the execution of that at the farm level is akin to cutting with an axe, you know, so you've got this transition of being very precise, measuring with a micrometre, marking with a pencil in the middle, which is my role to the farmer taking up that advice and trying to execute it at a farm level, or a paddock level, are keen to a cutting with an axe. And that's, I think that's a really good analogy of the flow of technology and information from the laboratory through to a paddock decision that gets executed.

**Oli Le Lievre** 11:43

Can I ask on that? So I really do like that analogy. So given that, like, what have you learned about marrying up, I guess the ideals that sit within science and research, but then the practical realities of what actually needs to happen to deliver and execute on growing on farm?

12:03

Well I suppose so back in the Department of Ag days, right back into the beginning of my career, I was fortunate enough. You know, this is again, pre GRDC. And, you know, we used to run our trial work as part of the district agronomists role, we used to run our own trial programmes. But we had tractors and techos and trucks and all the gear and harvesters we had all the gear to do that sort of stuff at a small plot level. And so there was a burning desire from within to try and make things more productive. And we'll talk a little bit in a minute or two about why there was that need. But but from within, there was this burning desire, but ultimately out there in grower land, so land holder, the the land holders, they're trying to run businesses and survive. They had this burning desire to be better at what they were doing. And perhaps if I just focus a little bit about on that. So when I came to Walgett in the late 80s, I think it was 89, the wool industry collapsed. The reserve price scheme so Walgett in those days was the king of wool. I think we were the largest wool production local government area in Australia. That was taken away overnight, with the removal of that floor price scheme in the in the reserve price scheme in the wool industry. And so took a little bit of time, it took a year or two for growers to work out woolgrowers which was their main plank of their production system to sort of look around and go. This doesn't work anymore. We our business has just been largely, you know, a main plank of our business has just been removed. Now farming so that was say that late 80s early 90s. Farming has clearly been going on here for 20 to 30 years prior to that since the 1960s. The 1965 drought was really coming out of the 1965 drought was really before they have dryland farming in the Walgett district. But the lim- the area was only limited and and many big landholders that were largely graziers had shareholders on share farmers on doing the farming operation for them. So they just were having a little dabble over there on 1000 acres or 5000 acres over on the side. A lot of those Grazier base landholders didn't really understand the farming that was going on on their farm. They just took a bit of the profit when there was a good season and thought Oh, well thank goodness, we've got that. But with the demise of the wool industry, really what happened was a lot of those landholders became a lot more aware that their business relied on having another enterprise, that enterprise was dryland farming. Couple of other things were going on at that time. So 1991 or two or somewhere in there. We have to we had poor coding to recession that we had to have. So interest rates got to 17% I think you know this is before my time in owning any land or buying any land. But I did participate in some of that with a housing loan you know I remember having a housing loan in town here, we bought out, bought a house and we're paying 17% interest. So we had that issue going on also. And so in about 92 or 93, we were really coming down to a bit of a pinch point. There was a lot of businesses in this district farming businesses doing really hard, high interest rates, no income potential because the wool industry was taken away from them, or had collapsed. And we really needed to needed to find that other enterprise, and we needed to execute that enterprise profitably, otherwise, we're gonna fail and go broke. I don't think there's any doubt about that. And so the next transformation that happened out of that was in early 95, well actually across 94, a group of landholders a group of largely graziers that had become farmers or attempting to become dryland farmers approached me and said, Greg, would you be interested in coming and working for us as a agronomist, because we really need to get our head around this enterprise. And we need to bring the best that science and technology has to offer, we need to bring that to our paddocks. So that venture, which was under the guise of Walgett Sustainable Ag group was effectively 16 land holders, employing an agronomist, which was myself, Greg Rummary. So we embarked on that on the first of January 95. And away we went. And, you know, we still joke about it with some of those landholders we didn't really have any idea we're doing. We just knew that we had to do something different. Otherwise, we're gonna go broke.

**Oli Le Lievre** 16:45

Can I, I want to jump in and ask on that, because, like, Well, I was only born in 92. But so I'll give away my age here, Greg. But so. So that pinch point, and actually, that that need, And lots of people talk about the resilience of rural communities and the mindset of people to I guess, overcome adversity. But there it was literally, all or nothing like was flicking back to those those early 90s. Were people acting with desperation? And what were some of the I guess, the different characteristics? And what what would have been some of the things that we would have seen had we have observed it now?

**Greg Rummary** 17:16

Well, definitely, people acting with desperation, because they didn't know what else to do. You know, Walgett up to that point in time, and really just been, obviously grazing and farming was a case of oh, well, we'll keep it pretty cheap. And we'll farm it. And we'll plant a seed every year and hope like hell, something happens. And we can pay a few bills. But the older country, at that stage, so the country that have been farmed, say 20 or 25 years, you know, it wasn't as it wasn't as fertile as perhaps it was, when it was first farm. And at that point in time, we were then looking at all this largely undeveloped country, which was grazing country, ah looking at the potential of that going, well, we need to farm some more of this because we need to be able to bounce, our businesses need to be able to bounce in response to seasons. And so obviously, there was a period there from the early 90s through to the mid 2000s, really where this this district as a whole was largely transformed from a grazing base to a farming base. You know, we went from 150 or 70,000 hectares of farmland of arable farmland to probably I don't know what the area is now that say, 750,000 hectares and possibly more something along those lines. And, and in amongst all that, we then bought the technology to make that whole dryland farming system, you know, we learn to understand the system much better, and what the drivers were. And as a result of that, the systems become much more productive. Notwithstanding that we are we farm in incredibly variable environment, I often look at Walgett as the pinnacle of variability. People say it's marginal. And I get really angry with the term marginal, we are not marginal in a farming area, we are variable, when it's good out here, we are as good as anywhere else in the world, certainly anywhere else in Australia, when it comes to, you know, if you're comparing apples with apples, on a dryland, farming scene, but obviously, the downside is that when it gets dry out here, and things are desperate, it doesn't get any more desperate than Walgett. So. So the challenge is, how do we run a farming business that can account for those variables. And I think we've become pretty good at doing that. That doesn't mean that we still don't have pinch points in dry periods. But we've become a lot better at the way we come out of dry periods and our ability to bounce back into business. And that's what defines Walgett and the northwest plains generally.

**Oli Le Lievre** 19:45

And I think that will really define resilience too, doesn't it? I'll be careful of My Word, variable farming. I would also say of the people I know and my assumptions I make of people farming in around the Walgett area is they're incredibly deliberate in and disciplined in their decision making. Can you can you run us through yeah I guess maybe the different mindsets or ways people farm depending on whether it's a dry year or? Yeah, a wet year?

**Greg Rummary** 20:13

Well, a couple of things I suppose we've learned over the journey is we've learned the value of soil water. So we blessed with a grey, grey and brown vertisols on the floodplain. And I say flood plains, but not all of that floods, you know, the brown vertisols typically not flooded, they, their formation is flooded, but they don't flood currently in the modern year, and our grey vertisols, typically in the floodplain of the current floodplain. But nonetheless, the whole northwest plains are alluvial sand, and it's formed by flooding. So we've we've come to understand the value of those soils and what that means in terms of how much water you can store in those soils that you can then subsequently use for later production of whatever, whatever the production system is. And just to give people your your listeners some sort of sense around that quantity sense around that, here we are at Walgett average rainfall, just under 500 millimetres a year, 474 millimetres a year, on average. Somebody says, you know, we often joke about this tool at Walgett, what's our average rainfall? It's a drought plus a flood, divided by two that basically defines to average rainfall. So when I say to you, we've got an average rainfall of 474 mils, it doesn't really mean much. We're gonna have 1000 millimetres, and can have 200 millimetres,

**Oli Le Lievre** 21:34

a true average

**Greg Rummary** 21:35

In 2019, our most recent, real drought year, I don't think we cracked 100 millimetres at Walgett in the in the calendar year of 2019. That's the most recent driest year on record. So the one prior to that was back in about 1901 or two, one of those years, I think we had 172 millimetres for the year. I don't think Walgett rainfall station has actually cracked 1000 millimetres. But I think its wettest year on record about 940 or 70 millimetres. So that just gives you an idea of the extremes. So somewhere in there is the average. We can put away in terms of a plant available water or how big is the bucket of about half that of about 200 to 250 millimetres of water, we can store in our soils. That is is crop dependent, so different crops can root to different depths in the soil profile. And obviously, the shallow ones don't have as big a bucket to access. But largely we can get close to 200 or perhaps a little bit more in terms of millimetres of plant available water. So that's a key plank to our production system. The second thing is we've learned to fill that bucket ground cover is really critical. So ground cover and, and obviously fallow weed control. So fallows are such an important part of our cropping system or our dryland production system. Because the only way you can mitigate your risk is to fill your bucket up to get towards the 200 millimetres of plant available water. And the only way to do that is to fallow and when you start the fallow, you don't know how long that fallow needs to be to get to the point where the buckets full, could be three months or be 33 months. We don't know the answer that, what we have learned is that ground cover across that fallow period is critical. Probably the other key thing is by retaining ground cover, which fundamentally was cereal stubble means that we had to find other crops to grow because cereals grown in cereal stubble retain cereal subble, don't work so well. Your cereal stubbles that you're retaining as ground cover, carry forward to the next crop, all the issues of pathogens in cereal borne diseases etc. And so we had to work work our way around. Well we want to retain this ground cover but we need to find another crop to grow in rotation. So and that's been another transformation in this district. When I first came here, it was largely just known for cereals predominantly wheat, bit of barley and perhaps a little bit of oats for hay or whatever. In the modern dryland farming scene at Walgett, we don't really ever grow a cereal on a cereal anymore, those days are gone and have been gone for 10 or 15 years. Probably longer in on the better farmers. We grow rotations and we always have a rotation crop growing in system to break that to break that carryover of cereal borne diseases or stubble borne diseases. So chickpeas we learn how to grow chickpeas very early in the piece through the 90s. And I think we've learned to grow them very well out here. They they love this environment. They're a crop that doesn't mind a dry season on the presumption that you've got sowing date right and a bucket of water for them to grow into. You've just driven in today past a sorghum crop, so we're not afraid to grow summer Crop when the opportunity presents dryland cotton as a summer crops another. I'll say a new kid on the block. We've been mucking around with dryland cotton for 25 years, but I think we're starting to get the rules around. What makes a dryland crop successful. Faba bean, canola, you name it, there's not many crops here we don't grow. But wheat chickpea are the staples, without a doubt.

**Oli Le Lievre** 25:24

So rotation wise and crop top wise, I guess we were clear on that. How is it evolving? You mentioned cotton starting to come into the mix a little bit more. But what are some of those other opportunities on the on the periphery that you guys are starting to say here as well?

**Greg Rummary** 25:39

Yeah so in the early days, it was winter winter system based so wheat, chickpea. Developing weed issues. So with, you know, one of the issues you run into with a zero tillage system after 25 years of predominantly glyphosate, Roundup, Roundup use as your main tool in fallow weed control. You know, you fast forward 25 years, you've now got a lot more weeds that you don't kill very effectively with that particular herbicide active. And secondly, we've changed the weed ecology. So most of our weeds now are typically a surface germinaters. So we've got words like milk thistle, fleabane. On the broadleaf front, we've got words like feathertop roads, and branyard grass, all surface germinated. And so from an ecological point of view, or or a weed biology point of view, we're looking at all how do we manage those weeds more effectively given that the ability of our main strike tool, which was glyphosate, as a herbicide active is becoming less effective. So you know, herbicide resistance is real. Two ways to go there you've you can bury the seed, the surface germinators. So one way is you bury them, simply tip them over with tillage. Strategic tillage. So that's a tool that we're starting to utilise. The downside of strategic tillage is that you remove your ground cover that we know is so important. The other tool is better use of residual herbicides, because residuals have a real activity of surface germinators or service germinating weed spectrums. So we've had to learn that we got that sorted, not really not yet. residual herbicides, as an option is hard to make work effectively in a variable rainfall environment. So if you go forward, if you go east to here to 200, 250 kilometres in a more still a variable rainfall environment, but but not as variable as walgett. They can typically get residual herbicides to work with greater levels of efficacy. Whereas you bring that out to Walgett, some years, the efficacy is as high as anywhere, and the subsequent weed control. Using that approach works really well. And other seasons, we don't get the rainfall requirements. And so we get very low efficacy and residuals. So that's how we make that work in our system.

**Oli Le Lievre** 28:06

I was gonna ask Greg so that that balance between utilising I guess the chemistry to manage the weeds versus turning them on their head And tilling it. How are you guys I guess, and yourself as an agronomist, how do you balance those decisions and the trade offs that come with one way or the other? And and how's that changing? And I guess I ask that from a genuine point of interest about the, I guess, the spotlight that's coming on chemical use, and from a consumer end. And actually, then how does that flow back into the practical reality of what's happening in the paddock.

**Greg Rummary** 28:42

So on the tillage front, we understand again, that weed ecology surface germinaters, let's tip it over and bury the seed. And typically, we can run down the seed bank very effectively by doing that. But by doing that, we get rid of our ground cover. So it's a bit of a challenge there. So agronomically, it's a case of going well, that's the science. What's the practical application of that? It's picking those points across your rotation. So crop sequence rotation, it might be over 3, 5, 7 year cycle, where your ground cover is inherently low. So it might be the chickpea or the faba bean phase coming post harvest of those winter pulses. So chickpea faba beans, post harvest, we typically are at our low point in terms of ground cover, so it's picking those parts of the system and going well, we don't have a lot of ground cover. So maybe this is an opportunity to tip that over and bury some seed. Yeah, right. So it's just working with the sequence and understanding. If you go to Western Australia and have a look at their take on bearing weed seed banks, they're using mouldable ploughers, probably probably using mouldable ploughers For more than that particular reason. We don't use a mouldable plough. But that's something that possibly needs to be investigated because a mouldable plough gives you that action of that, that inverting of surface to depth, we typically currently use a two way plough, which still has a large bearing effect, probably a 70, or 80% Bearing effect. And that's obviously different to something like a chisel plough, which people might understand as a, as a sweep, or, you know, a time based mechanism with a sweep on it, which probably retains 60 or 70% on the surface, so it doesn't achieve the inverting effect. So it's just understanding what tools growers have got, or landholders have got, and working that out across the crop sequence, every now and then you'll get a blowout in your weeds where we just for whatever reason, we haven't been able to effectively control them. And so you'll just reset the system by simply going well, I can't control that with herbicide. So I'm just irrespective of where I am in the system in terms of ground cover, I'm just going to reset it. So I'm gonna go and plough it and maybe plough it a couple of times, you know, over the course of a fallow summer or over a fallow, whatever the fallow length is, just to purely reset the system.

**Oli Le Lievre** 31:22

Yeah cool. No, that makes sense. And I guess, yeah, just for an uneducated person like myself.

**Greg Rummary** 31:27

There's a couple of other things in there that, you know, there's some other technologies that's coming. So we've got optical sprayers now. So that's basically a technology that can sense to green weed. And currently, that's then applying a herbicide. But in the future, that may not be herbicide that might be laser might be a microwave. It might be physical might be a time. The other is a prototype running around here in the North, developed by Sydney University, a team at Sydney Uni, where the sensor is sensing green, and a time mechanism is activated to dig that green out just for that little period.

**Oli Le Lievre** 32:05

See I've seen one, and I don't know whereabouts it is. But it's similar optical and then it's a flame just go straight onto it.

**Greg Rummary** 32:11

Yeah. So. So currently, we're using herbicides because that's the tools we understand. But technology and the development of technology, I suspect in that space will deliver non herbicide control measures, which is pretty exciting. Yeah, we got optical sprayers going. The other issue going on in the background here. And this is probably just a general issue, I reckon right around the the Australian cropping zone is that we've, as you develop more complex, complex crop sequences, for cropping systems, you've got to be more considerate for what your neighbours growing. And so the good old days of, you know, blanket applications of, of non selective herbicides in years gone past that doesn't work so well when you've got neighbours growing sensitive crops, be them dryland cotton, or sorghum, as you're saying, yeah, they're all susceptible to what else is going on around you. And so we've as farmers and business operators, we've got to be far more considerate of that. So that's just another challenge that this whole farming system evolution has put on the table that was it's got to be managed. Yeah. There's there's not a dull moment I can assure you from an agronomy point of view. Yeah

**Oli Le Lievre** 33:27

And I think well, I want to know, after 30 odd years of being an agronomist, and being in this area, what is it that still keeps you passionate and excited about the future?

**Greg Rummary** 33:36

Well, I joke about this actually, with some of my colleagues further east, and I say further east, or further south, but from my perspective, and from my perspective, in more safer production areas, you know, the more rainfall, more reliable rainfall, whatever. But I have this joke, really doesn't matter where you have your where you live in Australia, your variable. You know I heard a fella on the radio in the last couple of days. I think he was up on the north coast of New South Wales, just in behind Tweed there somwhere, in the tweed Valley, saying that this year, they've measured 1400 millimetres of rain, which sounds like a lot. But in 2022, they had something like 3400 millimetres of rain. So even when you live at Walgett, and you think of the Tweed Valley, for example, or anywhere else along the coast of Australia, you think of it is that wonderful green space that you go to typically on holiday, and it's always green, always wonderful. And it must just be so safe and secure. And you realise that that's not the case at all. And I suppose one thing I've learned over my time in agriculture is that anywhere in Australia is variable. And we've all got this challenge of dealing with variable rainfall, irrespective of your postcode. That whole idea dawned on me, way back in about 2003. I think it was I was down at Horsham, speaking. And Horsham is not dissimilar to Walgett in a lot of ways. You got the Wimmera north of Horsham, that's a great vertisol, cracking clay soil, and I thought before I went down I though I better understand a little bit about Horsham so I pulled out some long term average rainfall, long term rainfall data of Horsham. And really Horsham and Walgett, if you put them side by side, really look very similar. It's just that the the underlying trend is reversed. We have a trend that says our summers are slightly more wetter than our winters. If you take that to Horsham, their winters are slightly wetter than their summers. But typically, the variability is very similar. And so I've sort of been thinking about that, and trying to understand what that means for our business for a long time. And I've just come to, as I say, I've come to understand or come to recognise it anywhere in Australia have to deal with the variable environment, and, and the challenges that that then brings to the table. And, and so from a crop production point of view, it's knowing when to go, and it's knowing when to go slow, or sit on sit on your hands and go, No, we don't have we don't have the right points here to make up to make a planting decision. So we won't, we just simply won't, we'll just do nothing.

**Oli Le Lievre** 36:07

I've got a I want to take a bit of a tangent here in a second. But following on from that, I'd love to know, Greg, from your perspective. Why do you do what you do?

**Greg Rummary** 36:14

Ah, well, yeah, sorry, that was probably previous question. So I suppose I've always been challenged by the whole agronomy, transition, bringing science to the paddock. That's really what I try and do. And the key part of that is not just understanding the science, end of it, it's being able to communicate effectively with, with the people operating the farming businesses out there, the land holders, I really enjoy that part of my role, I really enjoy the communication side of it, probably equally as well as I as I enjoy understanding the science part of it. So there's, that's there's never a dull space in that, in that or sorry, there's never a dull moment in that space, because the science is forever changing. And at the same time, you've got to communicate effectively, with large business operations that require a lot of capital to change. So you've got to convince them that this change is worthy of expenditure. And so that's, that's a pretty important conversation to have. And it can be a challenging conversation to have. And we're having a conversation at the moment about this whole this capacity to get over our country in a timely manner. And what are the tools that need you need to have on farm to do that? Because over the time, we've come to recognise that when you pull, you take the science and bring it to the paddock, things like sowing date of particular varieties, we're down to that level, you pick a variety, and the sowing date around that variety to optimise its, its yield outcome is as narrow as a week. You know, we just don't sow wheat winter. We sow Lancer wheat long range lancer wheat for example, in terms of a variety in 10 days, we have a 10 day window. And if we miss that, we then go and find another variety. So we're very particular around our sowing windows to optimise our our potential yield. Now, when we make that sound decision, we don't really know what the yield is going to be. But we know some of the key drivers we know how much soil water we've got. We know what our nutrition is like in the paddock. And now we've optimised our seeding date. So we've put ourselves in the top right hand quadrant in terms of a yield outcome doesn't mean we'll land there, there's a whole heap of other variables that can influence that outcome. But we've put most of the big drivers, you know, we've, we've we've got them behind us. And if we start breaking the rules around that, as in we we plant a particular variety, well outside its window, or we plant a particular variety on no soil water, or we plant a particular variety on no soil nutrition. Well, you don't have all the you know, we dealt with, we've got a lot of things going against us. Before we even start.

**Oli Le Lievre** 38:58

It really is quite a high performance unit. And I'll spend a bit of time in the car over the last week. So what makes me think about was years ago, when British Cycling was in a absolute Pitfall, they started to look at what were those 1% marginal gains. So it was rubbing alcohol on the tire for extra grip, optimising the amount of sleep people get, they painted the inside of their trucks white so they could see little speckles of dust that would potentially impact that. Like I'm thinking of what you've just said, like farming, like down to those 10 Day windows that it really is a high performance unit in the paddock.

**Greg Rummary** 39:33

Yep, it is. And, you know, and it's, you know, we went back to that analogy earlier of, you know, measuring with a micrometre measuring with a pencil and cutting with an axe. We'd like to get rid of the cutting with an axe. You know what I mean? so in the early days of this agronomy change at a place like Walgett, and this is really happening across the whole wheat sheep belt around the country but the gains were 10, 15 20 percenters but yeah, now we were a lot to fine than that, so we're measuring with the micrometer rule, we mark it with a pencil still. But we, we should be cutting with a saw. And so we're trying to fine tune that near the One, the One and Two percenters we now are concentrating on. So that's, that's, I suppose what keeps me doing what I'm doing in this environment. And the other element to that that is worthy of mention is that Mother Nature ultimately still has the biggest say in all of this week, we can do all the things we do to try and minimise the impact Mother Nature has. But she ultimately has the final say, with either she'll rollout a drier than average season, or a wetter than average season, she'll lay on a flood across the floodplain, when you least expect it. And you just got to deal with all that stuff. And salvage what you can out of the out of the salvage what you can. But I think what still intrigues me and it's probably what's still keeping the passion in this space is that even in years, like 2023, so the current, well sorry we're now 2024. Just below the previous year, we managed to grow some pretty smart wheat crops based entirely on soil water, we didn't have really any effective in crop rain. And yet we still had the odd grower around the district growing average to above average yield outcomes. We just didn't get the opportunity to do that over many acres. But the few acres we did that on was just that demonstration again, as to why we do what we do and why it's so important to to make sure you're you execute the fine detail. Yeah.

**Oli Le Lievre** 41:35

So beyond the agronomy work you do and it'd be remiss of me not to mention that your son Tom's now working with you both on the agronomy side, but also the farming side. What's it like to have the next generation in the business and working I guess, with you on where the future is heading?

**Greg Rummary** 41:50

Yeah, so if you just go back to an agronomy level, I've seen that generational change now on most of the farms I've worked on, over the last, you know, however long I used to be the young kid on the block, when I first started and all the growers I worked with were older than me, that's sort of a transformation I'm now the old kid on the block. And all of our work with now younger than me. And then if I bring that to our own farming operation, with my son, Tom, in the, you know, on the team, yeah, that's, that's been a tremendous, it's tremendous to be able to do that, to be honest with that's a tremendous thing to be able to work, you know, work with sons, daughters, etc, and bring that next generation back into the system. It's not without challenges from the point of view that this next generation, like technology, they understand that they can operate those new technological platforms seamlessly. And so I think if I look forward, over the next one to five and five to 10 years, there's going to be a real rollout of technology that perhaps the previous generation was sort of putting out at arm's length and going hang on, I'm not really ready for that. This next generation is just going to take that and pick up the ball and run with it really hard. And a really good example of that is we've got some autonomous platforms running around now. Pulling optical weed sprayer technology. Yeah, that's the first, the first rollout of this. So you know, an optical sprayer being pulled by an autonomous platform. It's the next generation that have taken that on. They're the ones operating that, and they've just taken her on seamlessly. And yes, there might have been a little bit of hesitation, and a few little hiccups like there is with any technology. But once we've got them operationally going, hang on a minute, this is a game changer, because I always say to the grower group that I work with, we need less things to do on these farms not more. So if we can take one whole activity, off the list of things to do, because we've got an autonomous platform doing it out there. That has to be a great development, a great way forward. We're all time poor. Like every farmer, all time poor, there's always a list of jobs to do that you never seem to get to the bottom of. And so having one of the most important jobs on the farm, which is keeping our fallows free from weeds, if we can take an element of that activity in our businesses, and utilise an autonomous platform to help us achieve that. That's just that's a game changer. Yeah. And I suspect over the next one to five years, you know at the moment we've got three of those running around, we'll have 33 and then 133. You know, that's, that's just going to be a game changer.

**Oli Le Lievre** 44:39

And that rapid change of pace and the uptake is just going to get quicker and quicker.

**Greg Rummary** 44:42

And you know, and as we've been talking about earlier, it doesn't matter what the technology is that that's pulling around in terms of achieving weed control is it, it doesn't have to be herbicidal.

**Oli Le Lievre** 44:51

I want to come back to something you mentioned at the very beginning, it was around your decision that you didn't necessarily think you were going to be involved in agriculture as you studied natural resource management and I'd love to know, having spent your career now working in agriculture. Where does agriculture sit in, in and around the realm of the word conservation?

**Greg Rummary** 45:12

Well, you know, I think back to the degree I did, natural resource management, I think now back and reflect on 35 years at Walgett, and really what we're what we're all about is natural resource management. That's exactly what we're about. It's about using a landscape in a productive way. That's, you know, there might be plenty of people from the outside and go, oh you're just a bunch of bloody farmers that are worth a heap of money, you know, you know, wealthy farmers and got lots of land and all those sorts of things. It's not quite like that, you know, when you're out who you're dealing with, it's not quite like that, yes, we've got good equity in what we do, as a bunch of land holders generally. But you need that to be able to be resilient to manage the vagaries of, or the variability of the seasons that we have to encounter. So it's not, it hasn't been an easy point to get there. And the future won't be easy, just because, you know, we might have big numbers on our balance sheet. So to all those people out there that don't understand agriculture, and don't understand the numbers that go behind agriculture, we need that sort of base, that financial base and the equity base behind us to manage and to be resilient into the future. And I look back and reflect on what we've done here over 30 odd years. And really, it is as simple as as good natural resource management in a productive way. That's good for good for the business that's doing the day to day activity. It's good for towns like Walgett, Naromoi, Moree, the ones that I'm involved in on the northwest plains, it's good for regional Australia, and it's good for Australia generally. And isn't that good for all of us? You know, there's an element out there that go oh Yeah, but you're ruining the landscape? Well, I don't know about that. I disagree with that. Anyone who wants to come here and look at our landscape under a modern farming system. It's not, it's not what it used to be, you know, the the, the erosion issues that were a feature of the past, we don't largely have those anymore, because of ground cover and better systems. If I look at what Mother Nature provided pre European involvement on the floodplains, it was a cycle of largely a grassland cycle, very open timber. In terms of the landscape, if you read some of the early diaries, and so on, you could counter that there was you could probably claim, that even across the northwest plains. Now there's possibly more trees on the northwest plains now, under a farming system, largely farming based system than there were pre Europeans. Obviously, the Aboriginal management of the landscape prior to Europeans was was involved at significant burning regime. And that's what kept them largely grassland base, not, not woodland base. And you can see that I can show you examples around here, that as soon as you either stop the burning, stop that burning regime, the landscape, suddenly wanted to grow more, grow more timber, or move more towards an open woodland, and then a more denser woodland. I don't know that. I reckon, what we do, here doesn't, you know, isn't that far removed from what Mother Nature was doing anyhow, I often look at our, our natural systems around here. And here we are sitting down on this riverine environment that's obviously very diverse in terms of tree species, etc. But you've only got to go as we talk, you only got to go 500 meters away on to the floodplain. And all of a sudden, that was a very, a much more simplistic system. In a lot of cases, you completely lose that eucalypt species, you're back to one one or two species of grass. And Mitchell grass was the predominant species. And Mitchell grass can often be largely a monoculture, not dissimilar to what we're now growing under a cropping system. So I don't know I struggle with that a little bit. I think the key the key from a land holder perspective across if you look at our landscapes in a broader sense, is that the bits of our landscape that we don't utilise for say, say dryland farming use or or a more intensive agricultural outcome, we probably need to respect those more from a bio a biodiversity or conservation outcome. And I think there's some programmes in that space now that are trying to encourage that. And that's probably something that we should look at doing more of, but it's probably you know, I don't know what it is what it is, every every landholding is different because of where it is in the landscape. Some don't have a lot of diversity on their land holdings. Some other land holders have a significant amount of diversity across the landscape. And so it's just reflecting on those areas, or respecting those different areas. I don't know if that answered the question, or not.

**Oli Le Lievre** 50:02

yeah, it is. It's It's so interesting. And I think you being able to reflect on that the knowledge you've got of the area and how it has evolved, but also evolved and transformed, but actually, also, potentially not actually that different either.

**Greg Rummary** 50:17

Look you know, I'm happy to acknowledge under a conventional farming system, yeah, it was chalk and cheese. But we don't really have a lot of that in the system anymore. Yeah, we have some, as we were talking about earlier, some strategic tillage, Mother Nature's pretty good at turning on strategic tillage in the middle of a drought out here. It's not all beer and Skittles and the mitchell grass doesn't just survive during droughts. When when Mother Nature turns on a good drought, it the wheels fall off our our landscapes, big time, and they will be bare, they become bare, dry, dry, as in cracks four five, six feet deep in the landscape, you can hardly walk across it. So that's Mother Nature's idea of tillage. She's pretty good at it too at the dry end of the system of the cycle. So yeah I actually think our dryland farming systems. And this is where I think my involvement, and probably my my training that came out of university gave me an ability to see to see some of the natural resource management issues, or key points, but I think we work pretty well with Mother Nature in our dryland farming systems. Yeah, I really believe that. And I think we do a pretty good job on it.

**Oli Le Lievre** 51:29

So I've got a couple of questions to wrap on and the quickfire. So really, the first things that come to your mind on this, and they're meant to be fun. What's your favourite grain based dish?

**Greg Rummary** 51:41

Probably pasta.

**Oli Le Lievre** 51:43

Okay, who'd be three people past or present, you'd invite around for Pasta?

**Greg Rummary** 51:48

Hmm. It's an interesting one.

**Oli Le Lievre** 51:49

This is where the edit comes in.

**Greg Rummary** 51:53

Yeah past or present, I think the next generation is really interesting. I don't necessarily understand it that well. But I look at my son, Tom. And he's got a couple of couple of siblings. But I look at my son, Tom, he's got a very enquiring mind, because of the way he's been trained. His formal qualifications in ag science, and some experience, he's got a very enquiring mind as to why you do that, or how you do that, or how we could do that better. And he's a pretty good conversationalist. So you'd sit him at one end of the table, I reckon, or someone, at least of similar so the next generation, but he's a pretty good example of that. You know, I've known a lot of people over the years in agriculture that I probably didn't spend enough time with, and they're no longer with us. But I'd have to think about who the person out of that group that might be worthy of sitting at the end of the day well, but there's definitely a few in that, in that in that space.

**Oli Le Lievre** 52:56

I like this, so we're going types of people. So we've got younger, we've got someone from someone has the wisdom,

**Greg Rummary** 53:01

Yeah. And the other person, and this will intrigue a lot of people when I say this, but I'll probably put Paul Keating at the end of the table. And the reason I say that is, I don't necessarily agree with Paul Keating politics all the time. But he was a very formative person in my development or in my development of my understanding of the world beyond agriculture, just the whole economic platform and, and how Australia sits into the world scene. He was a very formative figure now, Paul's still with us, so we can sit him at the end of the table. Yeah. You know, I still think back, you know, we made comment earlier in this about the recession we had to have, well, I don't know anymore, whether we have to have that recession, and probably did a lot of damage to things. But I think at the end, the end result of that recession was we're all a whole lot stronger and a whole lot wiser in the way we run our businesses into the future. So there's some good that came out of that pinch point.

**Oli Le Lievre** 54:00

That's you're three.

**Greg Rummary** 54:01

Probably that's that's that's three. I haven't found a name for that person in the ag space that perhaps is no longer with us. But there's plenty in that space. Yeah. I'd have to think of it more. You know, I think Jim Pratley. I think Jim still with us. But Jim was pretty formative for me. But

**Oli Le Lievre** 54:14

he's still running around Charles sturt Uni.

**Greg Rummary** 54:16

Yeah he is. I think my son had some involvement with Jim. Jim was a very interesting fellow when I was at Charles Sturt University, doing that external Graduate Diploma in ag science.

**Oli Le Lievre** 54:25

Yep. What's something you've got on your bucket list, Greg?

**Greg Rummary** 54:29

Oh, look, I I want to find a bit more time to travel. I don't know that I necessar- And by travel, I don't mean necessarily international travel. I've done a little bit of that. I'd probably like to do a bit more. I'd just like to and I'll probably plan to do this in the coming few years. Just find a bit more time to understand is a lot of Australia out there. Like you know, I've travelled a fair bit of Australia, but I'm a fly in fly out typer traveller.

**Oli Le Lievre** 54:52

Yep.

**Greg Rummary** 54:53

I'd probably like to spend a bit more time in some of those places. Go there, and spend a fortnight or a month Not just three to five days. Yeah, something like that. And this doesn't really matter where that is in Australia. But, you know, I'm an avid trout fisherman. I like to get up into the high country and do a bit of trout fishing always like to find a bit more time for that. I still try and ride a motorbike at times. You know, just being in an enduro bike, not so much at enduro pace anymore. But just, it allows you to get to places that you can't, you can't access otherwise, it's great place. I love the Australian bush, I've gotta say and it doesn't matter whether you're out here on the western plains, or up in the high country, or perhaps in the tropics, somewhere. I love Australia. And that probably comes back from that natural resource management training. I love just spending time in the environment and trying to understand it better, it's something I like to try and do a little bit more of.

**Oli Le Lievre** 55:47

you know, talking about fly in, fly out, the last time I was in and around Walgett was 16 years ago, I'm only 31. So over half my life ago.

**Greg Rummary** 55:56

Yep, yep.

**Oli Le Lievre** 55:57

That's insane. Yep. Yep. What's, I'll say, what's a question you've got for future guests? But maybe what's something that you're curious about at the moment that maybe I could ask someone?

**Greg Rummary** 56:07

I suppose the scientist in me, you know, the, you know, we got some real issues coming in our farming systems around weed control. And so the science component of me says, Well, how are we going to deal with this going forward? You know, we've got at a world level, and certainly, at a higher society level, this requirement that we produce clean green, produce, healthy produce, I think we do that pretty well. But ultimately, these questions around, you know, pesticide use in the system. So where are we going with it? You know, what's, what's that future going to look like? You know, I've seen the benefit of pesticides. And I just put that as the general group herbicides, insecticides, fungicides, whatever. But just pesticides generally, I've seen the, what they've been able to deliver in a production sense. And I understand that quite well. But then on the other side of that, you've got this end user looking for clean and green. And you have to respect that. Sometimes I think that they're calling for that without really understanding the systems, the production system that go behind it. So maybe it's just a case of getting them at the table, and sitting around and having a chat around, why we do what we do, and how those products play out in that whole food production chain. I remember, I was down on the York Peninsular I blieve. No, Clare Valley, I think it was in South Australia a few years ago, 2019. And I can't remember the girl now that got up and spoke to us. But she was talking about this disconnect between, you know, people, as we say, by the voice of the sandstone curtain, you Sydney, Melbourne, and, you know, almost the rest of Australia

**Oli Le Lievre** 58:05

95%

**Greg Rummary** 58:06

95% of Australia. And how do we, you know, and this disconnect between what we're doing out here and believing that we're doing it really well, for their benefit and feeding the people for the world's benefit, really, it's not just our benefit. We're doing it as food producers, by and large. How we bring them back to the table. And she was, she was saying that we've lost that one to one connection. So not everyone out here has an aunt or a sister living in Sydney or Melbourne anymore, that there's a much bigger disconnect than that going on. And she made the comment that we really have to take matters into our own hand on that and make sure that when we get an opportunity to talk to those people, we put, we put the topic on the table and have a discussion around it, we need to make sure that we all and I say that all all of regional Australia collectively doesn't matter whether you live in Moree or Dubbo, or Wagga when we're talking to our city cousins, or city friends or whatever connections, we need to be more proactive in the discussions we have around how regional Australia operates. And you can't deny that regional Australia largely is is agricultural base. There's many other industries, obviously, but agriculture is a key part of them. One final question, Greg. We've talked, I think a lot about where agriculture is today and that evolution and just how much it's transformed over your career. If you were walking out of the university gates today, and into a career and you could do anything in agriculture, if every job paid the exact same, what would you pursue? It's interesting, isn't it? I don't know that I'll do anything much different and yet I ended up where I am now by you know, not by choice necessarily. It was just a case of I came to Walgett and I just when you get to a T intersection you got to choose Do I go left or right. Well you live by those decisions and here we are 35 years down the track still living at Walgett, we still love the place. Walgett's been a tremendous town, tremendous community, not without its issues, but all communities have issues. I think I could say to you that I'd probably take exactly the same approach to the workplace as in, I don't know where I'd end up, I'd just wait till I got to the to the T intersections, and make the decisions as you see fit at the time. But what I would do, and what I acknowledge now, with the benefit of hindsight is, I really like communicating and talking to people. That's a key part of my role in the grains industry generally, and just, just generally, you know, particularly locally, and people I think, would acknowledge that I, I love chatting to people I'm not afraid to talk to anyone about anything really, particularly in the ag space. But and I say to the, to the agronomist I've trained up over the years, and I've I've had involvement with communication, you know, in an agronomy space is at least 50% of the role. And I suspect that it's that that's that's same sort of rulebook applies to most jobs out there most, it's your ability to communicate, and sell, or not sell, but get the message across in a way that is respectful of whatever you're trying to sell I suppose and respect what Yeah, is respectful to the issue you're trying to solve. I think that's, you know, you could look at it the other way and go, Well, you know, I look at this disconnect, and we've got this, this community, particularly on the east coast of Australia that wants, you know, a lot more greener outcomes, we'll just call them greener outcomes, more environmentally, sound outcomes. I think a lot of good would come would come from that sector of society, if they simply started coming out to some of these areas, and having that chat sitting around the table. Yeah, you know, bringing that together. I mean, we're not against that, necessarily, but we need to understand it before we can actually do anything about it. We don't like being just told what to do from afar.

**Oli Le Lievre** 1:02:59

Well, Greg, I reckon we'll park that one. But thank you so much for the opportunity to sit down with you down here in this beautiful part, which is your home. And thank you for joining us on GRDC In conversations it's been fantastic to chat with you.

**Greg Rummary** 1:03:12

Nah Well, look, thank you for coming along, as you say wonderful spot. Great chat and see where it ends up.

**Oli Le Lievre** 1:03:18

Thank you.