

Ron Ehrlich: Hello and welcome to Unstress. I'm Dr Ron Ehrlich. Now, the topic of regenerative agriculture is one that our regular listeners would be very familiar with and know that I feel passionate about that. I think it's really important that we understand not only where our food is coming from but understand the differences in the way that food is produced and that's why regenerative agriculture is such an important thing for us, I believe, all to be familiar with.

I've heard it said recently that there are only 60 harvests left, 60 harvests left if we continue in this industrial/agricultural way of going. And that's just unsustainable because I've got grandchildren and I think they're going to be around a lot longer than 60 harvests. And I think we make the point that if nutrient-dense food is important for our health, then the way it's grown, who provides that, the soil in which that nutrient-dense food is grown is really important.

So, the story continues. And my guest today is somebody who I've been looking forward to talking to. I've heard of for many, many years and I've been looking forward to talking to him. His name is Charlie Arnott. Now, the name Arnott is, of course, a very well-known name in Australia on its biscuits, very famous. And I have today in this episode resisted the temptation to talk to Charlie about those biscuits.

My wife asked whether she could ask him about the Arnott's multicolour but, no, I resisted that. There were far more important things to talk to Charlie about. I hope you enjoy this conversation I had with Charlie Arnott. Welcome to the show, Charlie.

Charlie Arnott: Ron, lovely to be here.

Ron Ehrlich: Charlie, regenerative agriculture, holistic land management is a topic we've covered on this show many times and we will continue to, and I've been looking forward to speaking to you for a long time. I wonder if you might share with our listener a little bit about your own story. What's brought you to this point?

Charlie Arnott: Well, many things. I guess I grew up on a farm in Boorowa with my mom and dad and brother. And we farmed very conventionally from day one. And so, in 1970, my family bought that property there, Hanaminno. And conventionally, by that I mean, we were... It was high input/high output farming. We had multiple enterprises. We had cattle and sheep. We did lots of cropping.

We were growing wool. We were trading cattle and sheep. We had multi-enterprises within each of those, sheep and cattle enterprises. So, it's very busy, intense, even though it was extensive farming on some thousands of acres. It was intense because of the, I guess, the number of inputs we were using in that business. And I went away to school. I went to university and did a few other things.

And when I came back to Boorowa, I farmed as my father had farmed and as I had grown up to the farm, and it was also reflective of the university degree. I did rural science down at our university. And so, it was a very normal thing for me to be spraying everything all the time, pretty much. So, it was a lot of chemical use on crops, on pasture, on cattle, in cattle, in sheep, on sheep.

That was part of our agronomic and our animal health regime, very normal. And I didn't think anything else of it, but that to me was a necessity only because that's all we had ever done. Having said all that though, Ron, I guess we were looking at alternatives. We were one of the first in the district to use a minimum tool farming practice. We converted our gear, so we could get through [inaudible 00:04:20].

And so, there were some things we were looking at that were slightly outside the square but still really in the conventional farming, industrial farming realm. And then, about 2004, I'd say 15 years ago, a series of pretty dry years. We were in the first few years of the millennial drought. We had been adjusting cattle all over the state, actually into Queensland. We had been feeding.

I guess the definition of an industrial farm or a conventional farm, in my view, is that there are parts of the year when you feed animals grain or fodder. That's a reflection of not working with nature and not following the natural cycles of nature. Again, that was reflective of the way we farmed. So, yeah, 15 years ago, I had a... I went on a course. The real turning point for me was the day I went to a course and it was called Profiting from the Drought.

Ron Ehrlich:                      Wow.

Charlie Arnott:                 I read that-

Ron Ehrlich:                      Catchy title.

Charlie Arnott:                 Yeah, I read that. Catchy, it caught my attention. I thought it was a bit of a joke, because I thought, "Profiting from the drought, how is that possible?" So, I thought, "This will be a laugh." So, I went along to this one-day course put on Resource Consulting Services Australia and Terry McCosker who I know you know. It wasn't Terry who put it on the day that... It changed my life on that one day and simply probably by the fact that it made me start questioning what I was doing because I hadn't until that point questioned that.

Because I guess in questioning what I was doing, I was questioning what Dad had done. And, yeah, there's an interesting bit of psychology there about legacy and expectation and so on. So, the minute I started questioning what I was doing, I didn't particularly like the answers that were coming up. I either didn't have the answers or they were quite confronting. Why was I waking up every morning killing things?

Why wasn't I working with nature? Was I really happy? Yeah, that was probably the biggest question. The facilitator, Sean Martin, asked me on the way to the bakery to get a pie at lunch. He said, "Yeah, but that's all fine, but are you happy?" And I said to him, "Look, well, I'm not unhappy," which is a pretty poor answer. I guess, Ron, that one-day course and the subsequent one-week course called Grazing for Profit were the turning points for me, because it opened my eyes up to a whole way of thinking, a different way of thinking.

It was busting paradigms. I mean, that whole week, my head was exploding with excitement, but that was also mixed with feelings of guilt, feelings of I guess fear and loathing, the fear of change. I knew you can't unlearn this stuff once you start learning it. This means I'm going to have to change what I do. And I halfway through that course on day three or four, I rang the guys at home, my station hands, and I said as an example, I said, "Put all those mobs together. We don't want to keep our cattle and our sheep all separate now.

We want to put all those sheep together. There's no reason why we're keeping them separate," just as an example. It was a big turning point. As Charlie Massy says, "It was a tension event," and a number of tension events that led to that point. So, I guess that's where I started my journey, my regenerative journey, Ron, as I like to call it. Not that that word was even really used back then, but it made me think about what sort of job I was doing.

I didn't question whether I wanted to be a farmer. It was questioning what sort of a farmer do I want to be? And I didn't like what I was seeing when I looked in the mirror. So, look, over some years, I met many, many wonderful people in the regenerative agriculture space in the holistic farm management space, even slightly outside of that. People like Dr Patrick MacManaway who is a lovely, lovely man who he teaches, and he facilitates, and he goes around the world talking to people about subtle energies.

Ron Ehrlich:                      Wow.

Charlie Arnott:                 That's another whole realm of agriculture that Terry McCosker was very much into, that we don't... We're just not tapping into as much as we could. So, look, the journey's been... It's been amazing and it's getting faster. There's more stuff happening. There's more information out there.

More people are joining this movement, I guess you'd call it, and it's really exciting. So, yeah, that's how I got to be where I am. There's lots of little stories, a few diversions and distractions, Ron.

Ron Ehrlich: I'm sure. I'm sure, but that's a relatively short, given the family history of farming. And, okay, 1970, it's not like you went back into the 1800s or anything, but still 30, 40 years of farming. There's a family history there. This is a bigger question, isn't it, about why people resist change. Because so often, they see it as a rejection of the past and all that the past represents. And that's quite confronting, isn't it?

Charlie Arnott: It's very confronting and I think that's probably the biggest hurdle, one of the biggest hurdles I had and also, yeah, one of the biggest hurdles that most people probably have in farming. That hurdle in farming, it's not unique just to farming, I'm sure, but I guess because of the nature of farming that our lives, and our livelihoods, and our lifestyles are so intrinsically linked to our jobs.

We live in our homes and our homes are on the farm. We can't escape work. So, when we are exposed to different things and there's the opportunity, or possibility, of change, that change is potentially a ripple effect through your whole life. So, it is a big thing. And as I say to people, in the world of farming once we identify we need to change some things or we think there's... We'd be looking at other opportunities, or often possibilities.

It's really important to change the paddock between your ewes first. That's the place that you've got to get that right. Once that's right, you've just got to start changing the landscape of your thinking really before we have that enough confidence, or enough motivation or impetus to change the landscape, the way we manage our landscape in the actual paddocks. And I think that's an important distinction because I didn't necessarily do that.

I had tools in my hand and knowledge is a tool, are tools. And I went out with some of that knowledge and I hadn't changed my... not fully changed the way that my expectations of how to use those tools and what outcomes I was looking for. So, I buggered things up in a big way, some things. My grazing management, I thought I knew what I was doing and I flogged out some paddocks because I just didn't get the timing right, lots of reasons.

But I don't regret those things, Ron, because they're the things that made... They're the lessons I learned. And they were hard lessons, but a tool in the hand of an ignorant person or someone without the skills to use it, it can be a very dangerous thing. And I'm not suggesting that people have to be wary or cautious of the practice of the regenerative farming. I'm just saying that it's important to understand why you're going to use those tools and getting a feel for how to use them but to work on the mindset first is critical, I'd suggest.

Ron Ehrlich: And so many people on the land have a long history with it, don't they? And not a long family history, a long history of how things were done. And I can just imagine how difficult that transition is and interestingly, the person asking you, "Are you happy?" What an interesting question to start the conversation with, "Are you happy?", because mental health in our world, not just in the farming world, mental health in our world is a pretty serious issue. But on the land and the stresses that the land throws up at you, it's a really big issue.

Charlie Arnott: It is. I don't think people ask themselves that enough. When you ask the question of why to anyone but anything and they give you an answer, and then you ask them why, why, why, another three whys. I mean, nine times out of 10, the final why is because I want to be happy. Everything we do leads to that point of wanting to be happy and fulfilled success, happiness, fulfilment.

And to your point about the pressures and legacy of farming, the course, it's a good point because the course I did and the subsequent training I did with RCS and the friendships I developed and the network of farmers that I was involved in for some years. I was on a business call. And so, throughout that process, you do business calls to six or seven different businesses.

And it might be a husband and wife representing business and you come together every four months at a conference for a couple of days. And you get down to syntax. You turn up to these things and you have an hour

or so to work on your business throughout this conference in these boards. So, the situation is confidential. And you turn up there looking to talk about, oh, I want to talk about my planning or my fencing, or something.

Anyway, you get hammered, because everybody goes, "No, mate, you're not going to talk about that. We're going to talk about your marriage, or your depression, or your anxiety," or something. It's a safe environment and I so support anyone who's thinking about that type of network or engaging, but my point is one of those members of the board, his family had been on their property for six generations. I think it was six generations.

I mean, the name of the property was the family name essentially. And so, he was part of our business board. We talked about farming for the first year and a half or so. And then, through the process of just essentially asking, "Are you happy? What's going on in your world?", and stepping out of the day-to-day drudgery of farming and looking at what he was doing and why.

One day, he turned up to me. He just said, "I'm going to sell the property. I don't think I want to be a farmer anymore." Yeah, and that's not a bad thing. And I think there are a lot of farmers who are farming because of expectation. And that's fine, but there are consequences. And this particular guy, very courageous man to be doing that. And he made the decision because of the training he had done and the self-development.

He decided to leave. So, I mean, I don't know how real that is. I do know that one of the criticisms of this type of training is people say, "Oh, see, he sold his farm. He filed. That stuff doesn't work. This holistic farm management stuff doesn't work, because he sold his farm. I mean, truth be known, there are a number of farmers who sell their farms, because of they actually through this training work out, "I don't want to be a farmer.

I'm only doing it because Dad wanted me to." And so, it's a really good question you ask because there is that pressure. It's the elephant in the room in a lot of family situations and succession in farming families in Australia and probably, dare say, other parts of the world are, can be and often is, a disaster because there's this expectation. And often farmers, when they're talking about this stuff, they don't know good mental state anyway.

Yeah, it's often in a direct situation where Mom and Dad are going, "Oh, things are getting tough," understandably. "We're thinking about getting out of here." And the family's going, "Oh my God? You want us to take this over?", or, "I want all of this and my sister and brother can't have any." There's never a good time for it. But if you can, you need to get onto it.

I'm not giving anyone advice. It's just my experience was very good, I have to say, but I know plenty of families who have suffered and struggled with that whole process. And more often than not, it doesn't even work.

Ron Ehrlich: Yeah. And the other thing I thought was interesting with your story just now is you talked about your background with your degree where you had all these inputs and outputs and agronomics, and you understood what was what. And you're buying into a system that makes you very vulnerable, doesn't it?

I mean, if we're talking about happiness and fulfilment in life, the word vulnerability doesn't figure high when people are talking, "Oh, I'm really happy but, gee, I'm vulnerable." I don't think those two words go very well together, do they?

Charlie Arnott: Well, I mean, I like the idea of personal vulnerability, because that can be a very good thing. But when a business is vulnerable, that's not a good position to be in. And the current industrial farming, a conventional farming model is a fantastic business model for everyone but the farmer. Because at the end of the day, the farmer is propping up so many businesses, whether it's the person who supplies the herd lodge or the chemical or who's carting the animals, or whatever.

I mean, there are some costs, of course, in any farm business that you can't escape. We know that. But this high input, and I guess high output, that's a whole 'other point. But the high input farming, which is as you say, you're

vulnerable to the winds and the market, the cost of chemical, the cost of fodder. Some people were buying hay and grain. You're stacking a whole lot of variables in your business that are not in your control.

And you're trying to control what you're trying to do with them. And that's again, I guess, back to that Grazing for Profit course I did, Ron. One of the things that were very clear to me and one of the lessons I learned was that focus on what's in your control. As farmers, we spend so much time dealing with things out of our control. We don't just deal with them. We focus on them so much.

And if we can reallocate our time, we can focus on other things in our control. I think our businesses would be a lot further ahead but, yeah, that, call it a chemical cycle or an industrial farming cycle. I was stuck in that. We're a family farm, had been doing that for, I don't know, 35 years.

Ron Ehrlich: It's interesting to hear you say that it's a great economic model for everyone but the farmer because I also reflect on healthcare saying that our current health system is a brilliant economic model. It's fed by the chemical and the food industry. It's managed by the pharmaceutical industry and the medical industry, so it's a great economic model. It's just not a very good health model. And-

Charlie Arnott: Well, one thing, more medicals like you in the world, it would be-

Ron Ehrlich: Well, what-

Charlie Arnott: ... with it.

Ron Ehrlich: I'll write this down, Profiting for the Drought. That would attract my attention in this environment. What's happening out there, Charlie? I mean, we hear a lot about the drought in the city and a lot of my podcast is really, I hope, bringing people's attention in the city to what's happening on the land because it's just so critical for so many reasons. Tell us what's going on out there, because Australia is going through a very bad drought, Eastern Australia.

Charlie Arnott: Yeah, I mean, things aren't too bad in Victoria at the moment, which is great for a couple of reasons. One, yeah, at least someone's having a good year and, two, it represents a strong market for people north of Victoria to be selling some stock in there, so that's a lovely thing. Look, what's happening, I mean is a lot is happening. I mean, I guess to summarize it, what I see this in terms of the evolution of farming.

This is a tipping point. It's a tension event that a lot of farmers are going through. It's essentially an opportunity, I think, for farmers to stand back and look at what they're doing. And I'm not saying anyone's doing anything bad. I'm just saying that from my personal experience, I got to a point where I was questioning what I was doing and I was looking for answers.

And this is a really good time for farmers in any state, state or situation, to be questioning what they're doing. Because the drought's going to happen again, Ron, isn't it? Victoria might be in a drought in two years. So, these are things we can't escape. So, I guess the opportunity for farmers to look at other options, if they're not happy with what they're doing if they're sick of their mortgage getting bigger, their overdraft getting bigger, their cattle getting skinnier, their grass not being there anymore and a constant battle with nature.

Start considering what they're doing. So, I mean, I guess that's what's happening. That's the opportunity that this current situation presents and it's really scary. In terms of the state of the Eastern seaboard and the environment and the season. At Boorowa and I dare say this is reflective of a lot of the Eastern states, it looks like February. We're at the end of November. And if you took a photo, and I have been, of our place at the moment, it looks like the end of summer.

Where it's a long end of summer to be having this sort of weather. And so, we've had about 20% of the rainfall we'd normally have to this point from July, August, September, October this financial year. So, we are absolutely in uncharted territory.



Ron Ehrlich: And where is Boorowa, for our listener? Where is it? It's in New South Wales, but-

Charlie Arnott: Boorowa is in New South Wales. It's about an hour and a half north of Canberra, or four hours down the M highway, three hours down the M highway from Sydney, and then half an hour, an hour north of there. So, it's southwest, close to New South Wales. And Boorowa was considered, along with Cootamundra and Orange, maybe, in that part of the world. It's a reasonably safe area.

We tend to go into droughts later than most and we come out of droughts earlier. Yeah, it's safer than a lot of parts of the state but, no, we haven't. We've played catch-up in the last month or two. Having said all that, Ron, too, there are places in Western New South Wales and Queensland that have been in a drought for seven years.

Ron Ehrlich: Wow, that's just mind-boggling.

Charlie Arnott: Isn't it? I mean, it's just-

Ron Ehrlich: It's mind-boggling.

Charlie Arnott: Yeah, I mean just the-

Ron Ehrlich: I mean, we're going to talk. I have had Tim Wright on the show too and I had the pleasure of going up to Tim Wright's property when we did some work with the Southern New England land care. And I mentioned that on one side of the road was, and this was in February, March of this year, it was desolate. It was dust. There were a couple of cattle grazing somewhere on the horizon and across the road in the same environment was Tim's property, which did have vegetation on it.

He had these stock. He said it was the worst drought he had ever seen and that was back then. I can hardly imagine what he's thinking now, but at least there was vegetation on the property. Can you drought-proof property?

Charlie Arnott: That's a good question, Ron. A drought, to me, is man-made. When I say that, I mean what does someone look out the window and see when they're in a drought? They see no feed and they see no... That's essentially the biggest sign of a drought. There's no feed because it hasn't rained and it hasn't grown. And there are other complications with water and so on, but case in point.

Tim, New England has been in a draft on and off for some years. They might have reasonable autumn and then have a terrible winter and spring. And over the road, you've got someone to look over there to say, "Look, that's in a drought situation." But you turn around and there's someone, "Oh, that's not actually in a drought." So, this is decisions create droughts.

The decision to hang onto stock when they're eating all your grass. And you then might decide to feed them hay. That's a decision where you're going to owe the bank more money. You're going to owe your ecological bank money as well because you're mining those paddocks. So, back to your question, can you drought-proof a property, well, yeah, you can. It's all about decision-making.

The thing to do then is with your buying. You make decisions that are based on... It's based on changing your decision-making process and what is that? And how does one make decisions? Well, you need two things to make a decision. You need data. You need numbers. In a situation like a drought, how many cattle have I got on?

How much feed do I have? How much time do I have? How much money I've got in the bank? What's my mental state? Hard to put a number on that, but that's the data you need. And then, the second thing you need is goals. You need some goals because the goals guide the decision and the use of those resources and the use of that data to then help you make a decision.





Charlie Arnott: Yeah, with anyone-

Ron Ehrlich: ... making everything antiseptic. Get rid of bugs. But in healthcare, we're learning how important they are. I guess we're learning that in agriculture, too.

Charlie Arnott: Yeah, slightly. You know as well as anyone that the soil biology is very similar gut biology, interactions that take place, the movement, the balance of the fungus and the bacteria. The plant's stomach is essentially outside of its body. It's in the soil. That's where all these processes take place just like our stomach is internally. And it's a contained unit, but there's very similar activity taking place. There's digestion and there's translocation and there's passing across membranes, the whole thing. So-

Ron Ehrlich: I love that. I love that, Charlie. The plant's stomach is outside the plant. That's a beauty, though.

Charlie Arnott: It's external. I don't know. It might be my words have strung together, but it's not necessarily my concept. But I love it because it builds the relationship between... I mean, there is such a strong relationship between. They're very reflective of each other, the stomach of a plant and the stomach of an animal, a mammal. And they have the same function.

And then, therein lies, I guess, the crux of the matter, isn't it? It's the digestion that takes place in that soil that produces the plant, and the flowers, and the fruit and so on, which stimulates the health of the soil. It essentially produces the food that we then digest in our stomach. It's not a long bow to draw that the health of the soil is directly related to the health of us, directly related to the health of the soil we're sourcing our food from.

Ron Ehrlich: Yeah, I mean, you can even draw the analogy a little bit further by saying you can keep a personal life on an intravenous drip giving them saline and sugar and keep them going for quite a long time, but you really want them to be having a nutrient and start to be thriving and healthy. And similarly, plants can grow with superphosphate but without their digestive system working. I like this, Charlie. I like that analogy.

Charlie Arnott: How's this one? How about hydroponic people? That's what we've got. You think about hydroponic tomatoes, just to say. You're probably aware that roots on plants are essentially... There are quite a few different tops of roots, but there are the ones that are essentially used to draw water up into the plant and there are ones that are doing more of the communication with the soil biology and drawing nutrients up.

So, when you have a water-soluble fertilizer and that could be in the soil, it could be urea. It could be superphosphate. It could be lots of water-soluble minerals and so on, artificial as they were. Those plants are drawing up those minerals through their water roots. That's its column. And so, they're being force-fed. That's far from the natural process.

The extreme of that is a hydroponic situation where that's all there is. There's not even soil particles, or fungus, or bacteria. It is just simply water-soluble nutrients being force-fed into these tomatoes. So, back to your point, yes, a human could survive on the very basics. I mean, what a life that would be but, yes, it can support. Its life could be supported, but that'd be no fun.

And then, the eating of food that's grown the same way, hydroponics or whatever, it's just not nutritionally dense and it's not all-natural. And there's just not that balance of all the good stuff.

Ron Ehrlich: Well-

Charlie Arnott: Plants have intelligence. They know what we need if we just tell them and there's a number of ways we can do that. But once we understand and we acknowledge and we work with those, that function of nature then will be a much healthier and happier race of people.



Ron Ehrlich: You said, "Imagine humans being like hydroponics. Imagine what a life that would be." Well, I'm not sure we have to imagine too much, Charlie, because a lot of that's what's going on. And then, there was that fourth cycle of diversity, isn't it? Or biodiversity.

Charlie Arnott: Absolutely. Yeah, biodiversity. So, we have essentially the living component of that. So, we've already talked about the plants. There's nowhere on Earth where there's not the activity or the relationship between plants and animals. And I was in Italy for a couple of months in the middle of the year, just going. And it was fascinating because they grow a lot of food there.

It's part of their culture. There were not many animals in the landscape. There were not many cattle. Every farm used to have the cattle and they'd live underneath the billows. And that would be where the cattle, and the pigs, and the sheep and whatever... In two months, I saw two mobs of cattle.

Ron Ehrlich: Wow.

Charlie Arnott: And that was fascinating, because I think that's the bit that's really missing over there and probably in lots of other parts of the world is the function and the relationship the animals have with the landscape in terms of the cycle of nutrients, the disturbance and, yeah, the roles they play in so many of those cycles we were just talking about. The solar cycle, for example, plants when they're grazed by animals, it stimulates sugar to be pumped in the ground so they can recover.

They're putting up fresh, much more effective solar panels and they do that. So, the diversity or biodiversity of the landscape, whether it be in someone's back garden or a million acres in the territory, is critical because it's part of the immune system of that environment, isn't it? The more creatures you have in that environment, the more resilient it is, the more adaptable it is to seasonal variations and fluctuations and the more adaptable it is to the good old human who comes along wanting to trash it.

We're good at that and nature is just so forgiving. And it's more forgiving with the greater number of species, flora and fauna, it has to do with good old humans coming along trying to trash it. And, of course, that also relates to the soil and the whole biology of the soil.

Ron Ehrlich: I remember Terry McCosker saying to me and I still remember him. He was on this show and he said, "Ron, ruminant urine is a beautiful thing. It's a beautiful thing, Ron." And I said, "Oh, Terry, please do share that with me and my listener." And he said, "Well, it's got plant growth hormone in it. Ruminant urine has plant growth hormone in it and that stimulates a healthy plant," which is more or less what you just said. And yet-

Charlie Arnott: That's a-

Ron Ehrlich: That's a classic, isn't it? And then, he went on to say, now, hang on, "Pseudomonas syringe is a microbe in the soil, which floats up into the atmosphere and seeds rain." Oh my God, what a concept that is. But, listen, animals have come in for a bit of a copping hiding, aren't they? In this world of agriculture of food and health and this whole movement towards vegans.

I agree with one undeniable fact and that is industrial animal agriculture is cruel... And what's bad for the animal is bad for us and what's bad for us and the animal is bad for the planet, but there is another way, isn't there?

Charlie Arnott: Yeah, that's a good point, Ron. And I think that those who are not keen on animals being eaten. There's generally an environmental or a nutritional, or an ethical, angle and that's fine. That's the argument. And so, yeah. To me at the end of the day, ruminants and animals are necessary. I'll start again. If we take right back to what is one of the biggest problems that vegans have, for instance, with animals being on the landscape?





Charlie Arnott: That wasn't very long ago for either of us, right?

Ron Ehrlich: I have to dig deep there, Charlie. I have to dig very deep. But anyway, we did learn about photosynthesis. It was one of the first things high school students learn in biology is photosynthesis. So, that doesn't get much more complicated than that when we're talking about sequestering carbon, does it?

Charlie Arnott: That's right. I mean, as was highlighted to me the other day by Aaron McKinsey who-

Ron Ehrlich: Oh, I know Aaron very well.

Charlie Arnott: You know Aaron?

Ron Ehrlich: Very, very well.

Charlie Arnott: Good. Well, he said it well the other day. He said that animals and the soil are essentially the best, what was the word he used, a solar battery that we have. We're capturing solar energy via plants and good soil and turning that into protein, animals, fat. And in that process, we're putting carbon, essentially solar energy as it were, into the ground. We're capturing that.

So, I thought that was a fascinating way to look at it. I think and many people would support this, there are so many benefits of this whole concept of using animals in a landscape to graze, pasture, to produce food, to sequester carbon. I mean, there is no food shortage on the planet.

Ron Ehrlich: No, no. We've established that.

Charlie Arnott: It's least of the problem. And what a wonderful thing that in the process of sequestering carbon and reducing emissions of carbon in that process, in that sort of a business, we're producing more nutrient-dense food.

Ron Ehrlich: No, no, it's-

Charlie Arnott: That's-

Ron Ehrlich: Another thing I wanted to ask you because I know you're very familiar with, the word biodynamic. We hear that a lot. What does that mean?

Charlie Arnott: Ron, how much time you got? I was introduced to biodynamics through the RCS program. At one of the conferences, I met a fellow called Hamish Mackay who's been doing... He used biodynamics in his 20s. He's been doing that for about 45 years now. He's been teaching. His family farm has been using biodynamics for many years. So, I guess when I was introduced to Hamish and I heard him speak, he was...

What he spoke about resonated with me. It was at a time where I was very open to all sorts of different concepts. I knew I had to be open to new things. That's a hungry stage of personal development. And so, when he talked about biodynamics and the use of biodynamics in a landscape in a farm, it resonated with me, because it seemed to put a lot of structure around, and answered quite a few questions around, nature and how it worked and how we could actually have a relationship with nature as opposed to getting out of bed every morning and going, essentially, "How am I going to battle and fight and, in lots of cases, kill nature to get done what has to be done as a farmer?"

So, I guess that was the attraction to me that it represented an alternative to what I had already been doing. And essentially, it involves the use of a number of preparations. And a lot of these preparations are made... Well,



they're all made with natural ingredients and a number of them are based around using cow manure, which is in plentiful supply at Hanaminno, our farm, and a lot of farms.

And a number of the things we do with that is the showpiece by name of preparation is horn, cow horn manure 500, which is essentially putting lactating cow manure in a cow horn and put that in the ground over winter for six months. So, the horn is a perfect vessel to be putting cow manure into or anything, anything sort of compostable material and putting that in the ground.

So, we use cow manure, because the cow is one of the three, I guess, pinnacle species on the planet. And I'm talking about the worm is essentially the archetype species, I guess, of the soil, such an important species, animal, there. In the air, we have the bee, all right? And the bee, we know all about the bee. If the bees not around, we're in a drought. Say, such a significant role to play in the production of food.

And the cow representing the ruminants, I guess, is... Ruminants essentially created all the grasslands on the planet, which created soil, which created not just micro-climates but macro-climates. So, the grazing animals of the world, essentially that's what the cow represents. And so, we use a cow and the cow manure because of the... One of the reasons is the energy she puts into that grass that she's chewing and cutting in her ruminant, in her rumen, sorry.

There's a lot of intense energy that's put into that, a lot of effort, a lot of intention as it were. And when that comes out the other end, it's the perfect fertilizer, okay? We turn the biology of the grass, which is representative of the landscape into a compostable and fermented product, which is the store and the source of the biology. We need to get back out into that landscape to heal it.

So, we're using cow manure in our horn. Another one we use is, another preparation is, something called cow manure concentrate. Again, it's cow manure. We put that into a cement mixer. We throw some eggshell and some basalt dust into that. And we mix it for an hour and we put that in the ground in a pit. It could be two foot deep and the size of a hessian bag. And in there, we put the six compost preparations.

They're bound into compost preparations. Essentially, those six herbs, we use. We put that into the manure and essentially inserting organs, organs of organic agriculture into that manure. You could just put that manure in the ground and it would compost, and those would be amazing. The function and the role of these herbs in that manure in the ground, just like the organs of our body, okay?

Now, each organ of our body has a function in that entity, in the human body or the animal. And when we take one out or we don't have it there in the first place, our body tends not to work as well as it potentially could. So, same with a composted. When we insert these, essentially an organizational structure, into the compost heap, we're supercharging it. We're creating almost a living body of decomposition, a living entity which...

Look, at the end of the day, we supercharge that compost. And then, we use that compost once it's made after four months in the case of this cow manure concentrate. We then spread that on the landscape in a diluted form. We're using quantities of 150 grams of a year, very cheap, very low-

Ron Ehrlich:                      Low inputs.

Charlie Arnott:                      ... impact, low inputs. And we're using the resources that we have around us. And, look, there's a whole lot, I guess, Ron, more cosmic elements you've got to manage, which we can go through at another time. For me, it's a wonderful practice, because it also creates some ritual around the farm.

There are certain times of the year we do these things. It creates some real reverence around the engagement with nature. We're using resources. We're giving back. We're not having to go to the shops and having to buy bags of stuff to give back to the landscape.

Ron Ehrlich:                   Something I heard, Charlie Massy says, which resonated with me is that rather than dominate nature, we should enable. And it seems like you, in your life as a farmer, have experienced the entire continuum from your high input agronomic beginnings with your university degree to your epiphany of regenerative agriculture.

And in that continuum of enabling nature biodynamic is the next step, particularly when I guess if we went into subtle energy. And we haven't got time to discuss that now, but I'm guessing that's the continuum, isn't it, that you've experienced, almost the length and breadth of it.

Charlie Arnott:                Yeah, I guess. It's an interesting way to put it, Ron. I guess I'm if I can say this, well-positioned because I have. I can have conversations with farmers, conventional farmers, about the trials and tribulations of using chemical and fertilizer and the pros and cons of that sort of thing. And to the other end of the sky to say that subtle energy and the bit more spooky-

Ron Ehrlich:                   Well, the rituals, the rituals around-

Charlie Arnott:                [crosstalk 00:55:55].

Ron Ehrlich:                   I think rituals are an important part of our human experience. In a certain extent, we've lost them in our modern society.

Charlie Arnott:                Well, that's a good point, Ron. And you're a good interviewer. You always catch me up with those little gems. It's good. It's good-

Ron Ehrlich:                   Leave a review on the podcast, Charlie.

Charlie Arnott:                As an interviewee, I'm your favourite. You're my favourite. But you're right. My current ritual's involved around making phone calls to agronomists to buy more superphosphate or something. That was the thing in the diary and the calendar. And I would, if it was me or someone else, go and spread that. And that was the ritual. I wasn't giving back to the land. I was using it.

My attitude was this landscape is a resource I'm going to use to do what I need to do. And so, having the ritual and the reverence, which I guess any good ritual has a reverence for the process and the activity. And having a healthy respect for what nature's trying to do. And nature's always trying to move to a state of complexity. So, when we allow it to do that, we allow it to self-organize.

And getting back to that conversation around biodiversity. The more people you have on your team, the more people, the more animals, the more biology you have on your team, the more chance that you have someone who's going to come in and do the job that needs to be done as opposed to calling the agronomist and saying, "I need a job done. Can I get some money arrear?" Which, in itself, creates a whole lot more problems. It's been an interesting journey, Ron.

Ron Ehrlich:                   Yeah. We're going to finish up and I just wanted to ask if you had a message for people in the city, because I'm wanting to connect people in the city with what is happening out in the country. What advice would you give people in the city as part of that human social cycle that could make a difference?

Charlie Arnott:                Well, look, thank you for allowing me to say so because that is probably the most important. And Charlie does say that in the book, the social because it's humans in nature that are making the decisions. And it's not just humans on a farm. It's humans in the city with their food buying choices and their behaviour. So, if I could suggest to anyone, find... I ask people, do they have a doctor?

And they generally say, "Yes, I've got a doctor." And I'd say, "How often do you see your doctor?" And they go, "Once every six months or so." And are they important to your health regime? Of course, they are. They're a



doctor. And then, I say, "Well, who's your farmer?" And they look at me like I've got two heads and they go, "What do you mean?" I said, "Well, how often do you go to a farmer?"

"I don't know, three times a day." Yeah. And so, why don't you have a farmer? Why don't we have farmers? So, my suggestion to people is if we had farmers and if we engage with farmers, then we went on the farm. We bought their food and we understood a little bit more about the practice of farming and the things they're going through and the processes, the production, and their relationship with nature and so on.

We're going to be much better off. We probably won't need to see our doctor as often, because if we're eating nutritious food direct from the farmer and having a relationship with them, a social connection, which we all used to many, many, many years ago. Everyone was either, if not a farmer, had a cousin or a brother or a sister or something. So, I'd also suggest, because there are the images we show on the news, the pleas for help.

That's helpful when there's support given to organizations that are supporting farmers to adopt and take up long-term solutions to this problem, okay? Let's just say it's the drought, this extended dry period. I understand the benefit of hay being bought and people paying for hay. And that's given to farmers to get through something, but what we need is long-term solutions.

The charities do it. Donate to charities like CARBON8, for instance, where you're helping reward farmers for sequestering carbon and you're helping. And also the charity, Thankful for Farmers. Get online and check them out, because they're partnering with brands and the sale of those particular products that those brands produce goes to a fund and that fund will be distributed to farmers who are... and initiatives who are building the health and the wellbeing of rural communities, the adoption of technology and long-term practices.

So, our motto is essentially we're not into giving people fish. We want to give them a fishing rod and show them how to use it. And then, you get on with it, because there's going to be another drought. And we want farmers to get to the next drought prepared. Your friend and mine, Terry McCosker, Ron, he says, "As a farmer, we're always doing one of three things. We're either getting out of a drought, preparing for a drought or moving into a drought."

I might have bugged that up. We're either in a drought, recovering from drought or preparing for a drought. So, we're always dealing with the threat of drought. And when we have long-term strategies such as the ones that Terry teaches and organizations like Thankful for Farmers is supporting, that's going to make a real difference. So, any city folks out there, buy good, clean food. Get to know your farmer and support charities like Thankful for Farmers and CARBON8.

Ron Ehrlich: Great. Charlie, what a great note to finish on and thank you so much for joining me today and sharing your knowledge, wisdom, experience with our listener. Thank you. And we'll have links to all of those, too.

Charlie Arnott: Oh, wonderful. Ron, I've had so much fun. And I thank you for the work you're doing. I sincerely meant that before. Why aren't there more people like you in the medical space? Because I wrote a piece that was in the Good Food magazine a couple of weeks ago. And I-

Ron Ehrlich: I saw it.

Charlie Arnott: ... opened with, "If you ask the prime minister of... I'd join the ag and the health department. You could be my first minister."

Ron Ehrlich: Mate, I re, I think they call it retweeted, I don't know. I'm just getting my head around social media, but I saw that article and I could not agree with you more. Anyway, thanks for today.

Charlie Arnott: No worries, Ron. Had a blast. Thank you very much.



Ron Ehrlich: Well, as I said, there was so much in that episode and there were so many amazing things that we talked about. I loved some of what Charlie was saying. The plant's stomach is outside of the plant in the form of the microbes in the soil, which break the nutrients down and make it available for the plant. Now, another episode you may recall, I said healthy soil, a healthy teaspoon of soil contains about a billion microbes in a healthy teaspoon of soil.

The role of mycorrhizal fungi in the soil is really important. We've talked about that on other podcasts and just to remind you, a healthy cubic meter of soil has hyphae, which are those fine extensions that fungi put out. A healthy cubic meter of soil contains 40 kilometres of hyphae. So, you can see how this microbial fungi community could break nutrients down in the soil and make them available to the plant.

And this idea that the plant is on a life support system if you'd like when it's fed superphosphate and all the chemicals. But if we generate healthy soil, then we get the full gamut of elements that are available to a plant, which is fed to an animal, which is fed to us and which we then eat. And so, this is what nutrient-dense means. So, I loved also this idea of enabling or dominating nature.

And there is just so much more that I'd love to talk to Charlie. And I always feel compelled as I did when I spoke to Terry McCosker of going down, doing this seven-day course that Terry does and the biodynamic course that Charlie does, as well. And I'm going have links to Charlie's website and those courses and a whole range of other things that he mentioned, the CARBON8 charity and the Thankful for Farmers charity.

I do feel that we need to be elevating farmers to be the most revered members of our society because they not only grow the nutrient-dense foods that we need to be healthy, but they also nurture the soil for not just 60 more harvests but for generation and generation and generation to come. So, I hope you've enjoyed today's podcast.

Don't forget to go and leave a review on iTunes. We want to get that number up and we want to get this message out because it is such an important message. So, until next time, this is Dr Ron Ehrlich. Be well.

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