



# A day in the life of soil

DAVID HARDWICK INTERVIEWED BY LAURA FISHER

Agroecologist David Hardwick is in demand across the country as a soil educator, largely because of his brilliant role-playing workshop ‘A day in the life of soil’. At *Groundswell*, Imogen Semmler adventurously teamed David with soil scientist Professor Timothy Cavagnaro to give the workshop a different flavour. Everyone took great pleasure in communing as microbes and nematodes. It’s well worth listening to the event podcast ([www.k sca.land/resources](http://www.k sca.land/resources)).

In March 2020 I interviewed David to learn about how the workshop came to be.

**How did the role-play method come about, what sparked that idea?**

When I was working in the soil conservation office at Landcare, I used to attend field days run by the soil conservation service team. I noticed that they were very hands on, and they weren’t as academic as the DPI guys (Department of Primary Industries). They were far more collaborative with farmers. I could see how they used props and realised that props were a really important way to teach.

Then I was in another role in Landcare where I had to run an Indigenous cultural awareness project with the farmers in the Eastern Darling Down. There was an Indigenous cultural awareness officer from Brisbane whose name I can’t remember unfortunately, who we hired to run a workshop in Toowoomba, just in the beer garden of a pub. He rocked up, lovely guy, wore a shiny suit, and I thought “oh this is not going to go down well”. Just because of the way he looked—this was

a conservative rural area. But he was an extremely capable guy and he got us initially engaged very powerfully and then he role-played us for about two hours. He turned us all into Indigenous Australians and role-played a first contact story, based on a true story. He turned us all into desert tribal groups, and we role-played pre-European contact, then European contact and then post-European contact. And the way they worked, the missions, the alcohol. We had to live through that experience. It was an extremely powerful experience. I never forgot it, and everyone else there, no matter which side of the fence they sat on, they never forgot it.

**And you said you first tested the idea when working for a biofertiliser company, where you had to engage people on the importance of soil and how these biological products worked.**

The main way people teach you about soil health is powerpoints, they just kill you with powerpoint presentations. And everyone’s been through that, including me, and I just thought “well, if old mate could do it as a role play for that topic on Indigenous culture, then soils can’t be too hard!” So I cooked up a little role-play, with a plant and photosynthesis and a community of things that live around that plant’s roots. I got a few cards, some lollies, and gave it a crack!

**What sort of reception did you get?**

I pretty quickly realised it was a very effective tool for learning. I got really good

feedback, it was engaging and humorous. I realised I was on to something, so I just kept fine-tuning it over the next couple of years.

It’s got Chapters or Acts, if you like, which blur into each other. And if people ask questions you can take the role-play wherever you want, the role-play is a very dynamic, fluid, flexible thing. So, if someone asks a question on carbon you can just go for half an hour down the carbon path.

**Talk me through the five acts.**

They are:

1. Enter carbon: the giver of life i.e. photosynthesis
2. Symbiosis: the great relationship begins
3. Minerals: fertility from the earth
4. The great banquet: organic matter decomposes
5. Humus emerges

**These are all concurrent processes aren’t they, there are certainly beginnings but it’s all quite entangled isn’t it?**

It is, and with farmers in a small group, it can be more circular than linear, and we can have it go for three hours. We can also contextualise it for single nutrients, so we might have a day just where we look at phosphorus or nitrogen.

I’ve thought a lot about why it’s so effective as a way of getting engagement about soils, because I’ve been to other role-play activities that don’t work, because people feel really awkward. My conclusion

is, most people don’t like being actors – I know artists do but most people don’t. So if I said “oh I want you to be the bank manager in town, or the livestock dealer”, a lot of people feel awkward when you ask them to act someone that they know. There are a number of inhibitors. But when you ask someone to be a bacteria, it’s so far removed from the human world that they don’t mind.

The thing about Australian farmers, and I’m generalising because there are a lot of exceptions, is that many of them don’t have a lot of understanding of soil because they never had the opportunity to learn more about it. Or if they did go through uni and studied Agricultural Science, the way the soil topics were taught were really boring. Soil is never really practically taught; it’s very theory-based at uni.

**Is it true to say that farming has become very procedural—you go to the Agriculture store, you have a problem, they advise you, you buy a product...?**

Yeah it’s quite common that, because farmers don’t understand it, it is left to agronomists. The farmer trusts the agronomist. It’s a bit like how some people leave their financial decisions with the bank, or the broker... That’s the analogy I use.

**Is climate change an accepted reality among the farmers you speak to?**

Yeah it is. You do get sceptics, and it’s good to have scepticism I think. Most people see at a regional scale that their yearly climate



"A day in the life of soil" participatory performance at *Groundswell* 2019. Photos: Lucas Ihlein.

is changing, particularly the heat, how rain falls, and when it falls. I was just doing a job at Gundagai with a group. The father of one of the guys was hanging around and having a listen. At the end of the day I said hello. We were just having a chat and I said "how's it going down here?" And he said "we used to bank on spring. You can't do that anymore". So spring was a guaranteed growth time and you'd make money. He's probably 80. They're all trying to adapt and evolve.

You've got people all across the spectrum... You've got to be very wary when you rely on nature. Your thinking has to be very cautious. You're at the vagaries of climate, natural disasters, diseases. You know, are the dingoes getting in and wiping out 60% of your lambs? That sets you back three years cash flow. But that's different to conservatism. Farmers have to wait to observe something, they have to. Most farmers use the scientific method: they do something, they see the results, they reflect on the results, they come to a conclusion, and then they change if needed. But they don't do it really quickly.

A few years ago I was looking at Facebook's motto "Move Fast, Break Things", and thinking about how inappropriate it was for Regenerative Ag. I'm not saying people don't want to change things, but you don't want to break things. Because you depend on that landscape. So farmers are inherently very cautious. The only time they throw caution to the wind is when they have no choice. Regenerative farmer Col Seis is a great example—Col's place was burnt to the ground, he was in the middle of a drought, he had no more

money. At that time, he rolled the dice, he said, "I've got nothing to lose". That was the seed of his revolutionary practice of pasture cropping. A lot of farmers would have lost the farm at that point.

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People say farmers need to change, but changing the farm—you have to remember it's a complex system: it's a business, it's a landscape, it's animals, it's plants, it's water. It's more complex than most other business systems because it has a landscape as well as climate, whereas most other businesses don't have those elements. It's not really easy to do the change.

**You've worked with farmers in so many different scenarios. If there were more resources for farmers to change, how do you think it would be best channelled to make it possible for people to adapt?**

For me it's pretty simple. We do now have enough knowledge and information from behavioural psychology and other fields about what leads us to make change. To get someone to adapt, they have to feel confident. The angle I came from is that we need to strategically help build capacity in farmers and farming communities. That

has four stages:

The first one is getting people positively engaged on the topic. The role-play is a good example of that.

Step two involves building fundamental

understanding around that topic. So people have the basics.

Step three is "What are the relevant skills I need to manage better? Now that I accept I've got to maintain soil health, what do I do next?" And the answer would be "you've got to be able to read a soil test confidently and you've got to be able to assess your soil in the field and make some decisions: do I add lime, or do I add compost, or do I use cover-cropping?"

And step four is: feel confident to make decisions. That usually works by farmers going to visit other farmers that have already been through that decision. The really powerful approach is peer-to-peer learning or "communities of practice" learning. Then farmers are listening to other people's stories on how they made decisions. It's a low-risk way to practise decision-making without spending \$50k and getting a whole lot of it wrong.

When you take people through those four steps, they will automatically

innovate, change, adapt. They will do it for themselves, I guarantee you. Those four steps, they come out of Bateson's adult learning principles, I've just tweaked it. You see, few people have built the capacity in Australian farmers to understand their landscape better. It's been a cultural problem in agriculture over many decades: you control, you dominate, you modify, but you don't understand for health and long-term productivity. No-one is trained in ecology. My real challenge is to build ecological literacy, or agroecological literacy in farmers—it's my main passion in life.



David Hardwick is an agroecologist with over 20 years' experience in rural landscapes, farming and food systems. The founder of Soil Land Food, David delivers soil health and farm planning workshops and training programs around the country, with the goal of supporting farmers to build a more regenerative, ecological future.