Journal of Rural Studies 88 (2021) 149–156

Contents lists available at ScienceDirect

Journal of Rural Studies

journal homepage: www.elsevier.com/locate/jrurstud

Good farming as surviving well in rural Australia

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ARTICLE INFO

Keywords:
Agriculture
Rural
Alternative
Productivism
Food production
Good farmer
Australia

ABSTRACT

Agriculture policies in Australia have long encouraged productivist agriculture that aims to maximise yields through intensive production. Many have argued Australian farmers are trapped on the productivist treadmill as a result and there is evidence of an Australian farming culture where productivism is internalised as the standard of good farming. In this paper, I share the stories and experiences of commercial farmers in two regions of rural Australia who view good farming as production that moves them away from extractive productivism and towards a way of producing food that lets them and their non-human counterparts survive well.

1. Introduction

There has been no shortage of examination of the various political economic -ism and -ion forces (my own included) that have driven Australian farmers to productivist agriculture to survive. Productivist agriculture, or productivism, is 'super-charged, homogenous and monofunctional [agriculture] … shaped by the practices of high input and yielding, highly technical, narrowly profit-orientated agri-business' (Mackay and Perkins 2019, 9). Neoliberalism, globalisation, trade liberalisation, and more recently financialisation, have squeezed Australia farmers to chase 'efficiencies', intensify and specialise farming practices, become indebted, adopt 'innovative' models of production, and get big or get out (e.g. Haggerty et al., 2009; Lawrence et al. 2013; Larder et al. 2018). Many have argued Australian farmers are 'trapped' on the productivist treadmill due to these various historical and on-going political economic and financial structures. However, at the level of the producer, the kinds of pure productivist tendencies observed at the macro level have been harder to pin down and there are numerous examples of Australian producers who have resisted the pressure towards productivism. Such farmers incorporate a diverse set of values, ethics, beliefs and practices in their farming practice that disrupt the productivist abstraction. Many have underscored the inherent diversity of values and practices of urban food production in public and private spaces where growers have carved out islands of ecological liveliness that support various forms of economic exchange, enhance social cohesion and connection, and ensure continuity of culture (e.g. Kingsley and Townsend 2007; Cameron et al. 2014; Larder et al. 2014; Nursey-Bray et al., 2015; van Holstein 2017; Kingsley et al. 2020). Explorations of rural producers who incorporate these diverse values have found farmers who are chasing watershed restoration (Andrews 2008; Graham and Bartel 2017), escalating efforts to repair soils (Massey 2017), specialising in regenerating native pastures (Purvis 1986; Gosnell et al. 2019), and adapting settler-colonial practices to suite Indigenous hybrid economies of farming (Gill 2005). Ancient and ever present care of country practiced by First nations peoples has long included diverse and evolving agricultural activities (Gammage 2011; Pascoe 2014). First nations agriculture is inherently socially embedded and blends economic activities with cultural practices reflective of the hybrid nature of Indigenous land management more broadly (Altman 2001; Buchanan 2014). In the same vein, settler-colonial rural settings are never homogenous: even in so-called "super productivist" landscapes, the fact that people live and labour in these spaces means production is not easily disentangled from 'other' beliefs about what the rural is for and associated practices (Mackay and Perkins 2019). Geographers, such as Holmes and Argent have also demonstrated the multifunctionality of rural spaces (Holmes 2002, 2006, 2008, 2010; Argent 2011). Farmers' engagement in the National Landcare Program, an agri-environmental scheme, is further evidence of the already-existing diversity of values and motivations within commercial agriculture in Australia, reflecting as it does that production and environmental care can co-exist on farms. Finally, in the last decade regenerative agriculture that seeks to repair soil health has emerged as a definitive 'type' of farming although iterations have been practiced in Australia for decades (e.g. see Purvis 1986). Together these practices suggest that good farming in Australia is more than a

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https://doi.org/10.1016/j.jrurstud.2021.10.014
Received 1 February 2021; Received in revised form 20 October 2021; Accepted 22 October 2021
Available online 30 October 2021

market-orientated activity aimed at ever higher yields to maximise commercial surplus. Building on these examples and drawing on interviews with commercial farmers in two regions of rural Australia, this paper argues for a culture of farming that considers 'good' to be surviving well. This work thus contributes to an understanding of good farming in Australia that directly challenges existing notions of good farmer as productivist agriculture.

2. Perspectives on good farming

Good farming is a socio-cultural construct that captures a particular set of beliefs and assumptions about what it means to do 'good' farming and be a 'good' farmer. Good farming necessarily includes a set of concomitant practices (for example management styles, work ethic, incorporation of non-traditional ideas) through which a farmer's 'goodness' is judged. In early work on the good farmer Burton (2004) argued that in order to understand the persistence of particular farming cultures over time, scholarship needed to move beyond economic and structural explanations of agricultural transitions and change to take account of the ways in which certain agricultural beliefs and practices confers social reward and cultural status on farmers. Farming practices are, Burton argued (2004, p. 198) 'not only functional, but also overwhelmingly expressive' and help farmers to locate themselves within the group of 'farmer'. The need to belong acts as a powerful check on human behaviour because failure to display 'appropriate' social behaviours or reflect accepted social symbols is met with disapproval by others in the community. For some farmers, being 'good' is at the heart of their social standing and they can feel shame and experience social stigma when their farming practices (however defined) are not aligned with the rest of the community (Phillips 1998; Graham and Rogers 2017). Burton and colleagues have used the good farmer concept to explore the role that socio-cultural frameworks play in agricultural transitions arguing that such frameworks are critical for explaining the persistence of productivism (Burton 2004; Burton et al. 2008; Burton and Paragahawewa 2011).

At the macro-level of rural governance in Australia, intensive, profit-oriented, productivist agriculture has long been encouraged as 'good' farming. Governments have supported productivist agriculture since colonisation when the farm sector was positioned as a cornerstone of economic and social development (Argent 2002). While governments' support for agriculture has ebbed and flowed over time, agricultural policy support for ever increasing production has remained largely consistent, supported by scientific research, technological advances and more recently big data. The take-up of the productivism ideal as good farming is evident at the level of the farmer. Research into the good farmer in Australia is limited but has found that good farming is synonymous with the instrumental and financial goals of productivist farming; good farmers are those who work hard, achieve high yields, make good profits, keep their farms neat and tidy, and invest in capital expansion (Phillips 1998). This ideal holds for both family and corporate farmers (c.f. Sippel et al. 2017).

Yet farmers are not a collective, undifferentiated victim of productivist logics and policies. There are myriad producers, some noted above, for whom farming is about much more than production for profit maximisation. To date descriptions of the good farmer as productivist have largely failed to account for such farming cultures. For example, while the productivist good farmer ideal in Australia has been used to explain the lack of farmer engagement in on-farm conservation practice and voluntary agri-environmental schemes (e.g. Wilson 2004), it doesn't satisfactorily account for all those farmers who *have* engaged in such schemes and who are very likely to experience the same desire for social acceptance as their productivist good farmer counterparts. This suggest that while farming cultures may be geographically extensive, indicators of good farming can differ from place to place (a pointed noted by both Phillips (1998) and Sutherland and Darhnhofer (2012)). Accounting for these divergent constructions of the good farmer is the key contribution of this paper.

My interest in commercial farmers who think farming as more than productivism grew out of my experiences living in regional Australia during on-going drought between 2016 and 2019. Over the course of the drought, as the landscape became drier and dustier and whole swathes of hillsides held dead and dying trees, a noticeable malaise settled over the regional community in which I live. Dis-ease manifested in my body and I felt sensitised to climatic change in a way I couldn't recall previously. This is not unusual according to Erev (2019, 838) who says that: '… material process of planetary change reverberates in our bodies, affecting subterranean habits of attention and evoking bodily responses at and below the register of consciousness'. Having previously studied various forms and manifestations of productivist agriculture in rural Australia and alternatives in urban settings, I felt motivated to seek out a culture of food production in rural Australia other than productivism in large part to find some hope within a despairing time. In this sense I recognise the performativity of research in affecting the way we feel and think about the world around us (Law and Urry 2004; Gibson-Graham 2008). Like Carolan (2016, 143) and other agri-food scholars who write on hoped for food futures (for example le Heron et al., 2016; Stock et al. 2015; Sharpe 2020), I see something inherently hopeful in directing attention to the kinds of quotidian practices that, while small, might collectively give rise to different food futures.

3. Methodology

This research began with informal conversations with friends and colleagues who suggested there were lots of examples of farmers interested in agricultural practices that involved more than production. I followed up with internet searches using terms such as 'regenerative agriculture Australia' and 'soil health Australia' and read online reports about farmers engaging in such practices. I discovered two regions where there seemed to be a concentration of actors engaged in different agricultural practices – the Northern Tablelands in NSW (where I happen to live) and the Wet Tropics in north Queensland – and approached gatekeepers in each: Landcare and the organiser of a soil health workshop for farmers in the Northern Tablelands and an independent not-for-profit environmental management group in the Wet Tropics. Gatekeepers in turn gave me the names of individual farmers in their region who they thought might be a suitable fit for the project. I invited 22 farmers by email to participate in the study. Over a period of five months in 2019 I spent time on 17 farms where I conducted semi-structured interviews and participated in farm walks/drives. Farms ranged in size from 15ha through to 1400ha and all were commercial family farm businesses (Table 1).

4. Results

4.1. Rethinking what counts: aiming lower, gratitude and a sense of 'enough'

One of the key factors argued to hold farmers in (productivist) place has been the focus on instrumental and financial goals of farming as key imperatives for defining the good farmer (Burton 2004; Sutherland and Darnhofer 2012). Historically yield was the key instrumental goal by which good farming was measured because it 'measures only the husbandry ability of the farmer and therefore represents a better indicator of the 'good' farmer than any economic measure' such as return on investment or profit (Burton, 2004 p. 203). Unlike profit, which is a function of both on and off-farm factors – global price and demand for example – yield was argued to be a reliable indicator of good farming because it, along with its attendant symbols such as crop and animal health, reflected pure farmer action. In the preceding years as a financially viable farming business has become harder and harder to maintain, the symbols associated with yield have declined in value and, to some extent, been replaced by on-going commercial viability and

Table 1
Characteristics of farmers interviewed in this study.

Name	Commodity	Farm size	Generation	Region
Melinda	Cattle	1400ha	3rd	Northern Tablelands
Adrian	Cattle	1200ha	3rd	Northern Tablelands
Jake	Cattle	660ha	1st	Northern Tablelands
Adam	Cattle	530ha	4th	Northern Tablelands
Katherine	Cattle	450ha	1st	Northern Tablelands
Bryan	Cattle	445ha	2nd	Northern Tablelands
Chris	Cattle	130ha	3rd	Northern Tablelands
Edward	Cattle	80ha	4th	Wet Tropics
Charles	Cattle	66ha	2nd	Northern Tablelands
Thomas	Mixed cropping	1250ha	4th	Northern Tablelands
Paul	Sheep	650ha	4th	Northern Tablelands
Anthony	Sugar cane	530ha	4th	Wet Tropics
Joseph	Cattle, pigs	400ha	2nd	Northern Tablelands
Emily	Sugar cane/cattle	360ha	2nd	Wet Tropics
Greg	Avocadoes, limes	40ha	4th	Wet Tropics
Christine	Mixed cropping, market garden	16ha	1st	Northern Tablelands
Julie	Mixed tropical fruits	15ha	3rd	Wet Tropics

profitability (Sutherland and Darnhofer 2012) although yield remains an important measure of good farming in some contexts (Burton et al., 2021).

For farmers in this study, particularly cattle farmers living through drought, the instrumental measure of yield was expressly rejected as a measure of good farming. Financial success was important but only insofar as it allowed farmers to get by and carry on farming. Alongside viability and profitability, good farming was also farming that supported a range of other values that reflect a notion of 'surviving well' (Gibson-Graham et al. 2016). For these farmers, the goal of farming stretched out across time and place to include more than production and encompass more than human well-being. What counted as good farming varied between farmers but included: healthy soil, the presence of worms, chemical-free solutions to weeds, having knowledge of 'weeds' as indicators of soil health rather than limiters of production or signs of an untidy farm, a 'humming' farm, production systems that leave the earth in better ecological health, freedom to experiment beyond current 'best practice', farming that supports community, restoration of rainforests, lots of 'timber' or living trees, 'untidy' farms that leave fallen trees in place to rot and nourish soil life, livestock free farms during drought, and extensive ground cover during drought. These indicators of good farming challenge previous findings about what counts when it comes to the goals of farming which suggest that, even among non-conventional farmers such as organic producers, good farming remains consistently tied to financial viability (cf. Sutherland and Darnhofer 2012).

Cattle farmers living through drought in particular rejected yield as a measure of successful farming and instead aimed for lower production so those other critical life and production-sustaining ecological systems on the land – especially soil health and ground cover - wouldn't be diminished beyond limits to carry on. For cattle farmers this meant destocking early in the drought. The process of de-stocking is one many livestock farmers in Australia would be familiar with. It is said to be risky for the farmer to destock because when rain comes, cattle prices will rise and profitability will decline with the higher cost of restocking. Some have argued the decision to keep or sell stock during a drought is based on individual circumstances made in the knowledge of how much 'feed' or grass is left on the ground, tolerance for loss of ground cover, and willingness and ability to buy in feed in the form of hay to get by until rain falls again and grass grows (Bell 2018). Casting this decision as an individual one negates the symbolic importance among livestock farmers of having cows on the land. After all, in a productivist culture 'farmers want to farm' (Burton 2004, p.196). For farmers in this study however, it was the *absence* of cows in the landscape rather than their presence that signalled good farming because it reflected a decision to prioritise ecological health over yield.

The normalisation of feeding livestock through drought is closely tied to the good farmer ideal of maintaining yield: even in a situation where lack of rain leads to lack of grass and land can't naturally support livestock, the land is expected to still support livestock. As Federal MP Barnaby Joyce reminded the Australian public in a video he uploaded to Twitter on Christmas Eve in 2019 deep into the drought: 'well when it's drought, you feed cattle' (Joyce 2019). In the most recent east coast drought, this resulted in the trucking of hay across the country to allow farmers to hold on to animals at often significant financial expense, emotional pressure and ecological damage due to loss of ground cover and subsequent soil erosion.[1] For farmers who have shifted their focus away from yield as a symbol of good farming, they were unequivocal that de-stocking reflected good farm management because it allowed them to stay within the ecological limits of the system. Paul's explanation (he is a sheep farmer in the New England) is an exemplar for this kind of thinking and I quote him at length here:

> There's a lot of farmers out there that are running within their land capacity means and they're matching their stocking rates to stocking capacity … your production might be going through the roof and you've got all the bragging rights, you've got the best genetics, you're getting the top prices with all the sales … on the surface, externally that business looks like it's doing really well. ABARES [the science and economies research division of the Australian Department of Agriculture, Water and the Environment] looks at it and says 'they're making big money'. Then there's another property you drive past and it's all over grown and the fences are falling down but the farmer's happy and healthy. The ecosystem is thriving and they are making enough to pay rates. What's right, what's wrong?..There's obviously a much lower stocking rate than most farmers would ever consider at the moment, but it is possible. And for those farmers that do match stocking rates to nature, even in drought they've still got ground cover, they've still got a healthy ecosystem around them and they'll come out the other end without having gone into as much debt and doing as much damage to the ecosystem as a lot of other farmers are.

The idea of reducing production to 'just enough' in order to stay within ecological limits was underpinned in many cases by a subtle but detectable expression of gratitude for what 'just enough' meant among some farmers I talked to.

Contemporary Western philosophy takes a narrow view of gratitude arguing that it must always have a specific moral reason of merit or debt, that is, feelings of gratitude must have a deserving target (Fitzgerald 1998). As McConnell (2013), a leading philosopher on gratitude, defines it: gratitude is ' … to designate an obligation or duty that an agent might have to another under certain conditions'. Instead of this narrow

[1] The extensive east coast drought between 2016 and 2020 saw trucks driving livestock feed across the breadth of Australia. This practice was primarily constructed as charitable and necessary for struggling farmers who were victims of the long and difficult drought. The practice of buying in feed is rarely questioned in popular discourse with farmers assumed to have 'no choice'. For farmers in this study there was always a choice to make between feeding and destocking and provides further evidence of the difference between a productivist culture of good farming and that of surviving well.

position on gratitude, Fitzgerald (1998, 137) argued a more expansive view of gratitude observed in non-Western thinking, particularly Buddhism:

> A moral agent ought to be concerned with all relevant moral reasons, not just whether gratitude is deserved, merited, or owed. If gratitude is not owed but can nonetheless cause great benefit or prevent great harm or repair communal ties, then the agent has a good moral reason to be grateful. The question of whether gratitude is owed is simply not the whole story.

For Fitzgerald (1998, 146) then, gratitude is better defined as '(1) appreciation, (2) goodwill and (3) a disposition to act in a way that flows from this appreciate and goodwill'. I outline this distinction in the definition of gratitude because it is relevant for understanding the position among commercial farmers who were 'aiming lower' or expressed a sense of 'enough' and acted accordingly. This position stands clearly is opposition to productivist logics and contemporary notions of the good farmer and, is perhaps surprising given the dominant thinking that Australian are trapped between the positions of getting big or getting out.

I observed gratitude (appreciation, goodwill and the disposition to act these feelings) in a number of ways as I conducted this research. For example, different farmers expressed: feelings of appreciation that they have enough, that is, a distinct lack of fear about scarcity even amidst drought; feelings of wanting to share what they had – knowledge, experiences, time – with others; feelings of respect for the differences between farming approaches and a desire to embrace not defend against difference; and feelings of goodwill towards neighbours who were struggling through drought. This gratitude was not necessarily directed at anyone but it was there and it was beneficial for those who felt it because it allowed them to feel that, while what they had was not perfect and their production was not 'through the roof', it was enough to allow them to survive well.

Moreover, even in times of drought which research suggests can be deeply impactful on farmers' mental health (Edwards et al. 2015), farmers in this study expressed that there were things to feel grateful for. For example, deep in a four-year long drought Adam, a fourth generation farmer in the New England with 28 cows on his farm (he has run 500 during good times), talked with an obvious sense of appreciation about his life when describing simple acts of farming practice to me:

> … I'm making my own fertilizer. Most of the ingredients we can find on the place … We're just trying to be more self-sufficient and use what we've already got, rather than going out and having to spend thousands of dollars of inputs that will have a short term gain but not necessarily a long term gain. I'm just experimenting at the moment with a few different things. And during the drought, it's given me something to be positive about … Just building and creating my own stuff instead of going out every day and feeding [livestock] which we know a lot of people are doing … Different things, building our own sprayer rig, putting compost together … It's what gets me out of bed in the morning while there's not much happening as far as grazing goes ….

There was a sense of joy and contentment too in Adam's voice as he talked about working on the farm with his wife:

> It's funny, we had our wedding anniversary yesterday and we're down in the paddock shovelling manure up. I said to her, 'did you think nine years ago that this what you'd be doing?' [Laughing]. She said 'yea I thought we would be heading in this direction'.

Farmers I talked with in the course of this research rebuff the idea that good farming was productivist farming and tied to instrumental goals of yield. They eschew a focus on yield and high profits and have reoriented the idea of the good farmer as one that survives well, often with 'just enough', within the ecological limits of the land. This shift is important because it upends the goal of the normative good farmer found in research to date away from extracting the maximum out of the land. Good farmers are also those who look to balance what the land can give under any certain circumstance and what the farmer or business needs to survive.

4.2. Getting beyond human exceptionalism or coming to caring with

While a commonly noted feature of productivist good farming is the clearing of native or other vegetation to enhance productive spaces (e.g. Bjørkhaug and Richards 2008), good farming as surviving well goes beyond human exceptionalism to recognise the role of myriad species in the act of production. Standing quietly with cattle farmer Katherine in front of a stand of around 50 mature Xanthorrhoea grass trees, there was a sense of awe about this feature of the landscape in which Katherine lived and raised cattle. Xanthorrhoea are slow growing trees that can live to 600 years old and are said to have been a staple plant for First Nations' peoples providing food, drink, fibres and building materials (Atlas of Living Australia undated). As we wandered around these trees a different way of being seemed to settle over Katherine. She no longer seemed the competent land manager who could rattle off rates of grass growth per rainfall event and resultant sustainable stocking rates. Instead, like me, she seemed mesmerised by the trees: their sheer number, size and obvious longevity. I didn't ask Katherine why she hadn't cleared these trees to increase available pasture for her cows; such a question I suspect may have insulted her and disrespected the trees before us. But equally Katherine didn't talk about needing to protect these trees. To offer protection or express a position of stewardship over these trees would be to diminish the trees as living entities that had been here long before she arrived and would likely carry on here long after she departed. Katherine could have cleared these trees at any time to increase land for pasture of course. That she didn't I offer, wasn't out of a sense of stewardship reflecting her control over these trees, but because she was affected by them in a way that made the idea of clearing them unthinkable to her. Katherine, like other farmers engaged in this study, was, I venture, thinking beyond stewardship as control of the landscape and instead reflecting a sense of interdependence between humans and a range of non-human entities within the landscape, including the Xanthorrhoea. In relation to human-nature interdependence, Anna Tsing (2012, 144) suggests that:

> … human exceptionalism blinds us. Science has inherited stores about human mastery from the great monotheistic religions. These stories fuel assumptions about human autonomy, and they direct questions to the human control of nature, on the one hand, or human impact on nature on the other, rather than to species interdependence.

The way that farmers frame their relationship with nature as one of mastery or interdependence matters, according to Roelvink (2018), because it shapes how farmers respond to their landscape and care about it. In her research with Australia farmers, Roelvink (2018) found that farmers who care about land as stewards care *for* the land by attempting to control other species and landscapes, while those who care *with* other species as collaborators learn from other species and seek to respond to the needs and liveliness of more-than-humans. This is not to say that stewardship-as-control over chaotic nature emerges independent of non-human nature; in fact as Gill (2014, 274) argued, 'stewardship is better understood as an achievement that has … collective and individual dimension. It is also not solely a human achievement – particular events such as rainfall or erosion events, animals and environmental processes are intertwined with variable social contexts and moralities.' Even when recognised as an emergent achievement embedded in histories of human and non-human agency, Australian farmers continue to view stewardship as a human phenomenon of control, of caring *for* nature (Gill 2014). Conversely, interspecies interdependence and the

ability of non-human beings and things to care *with* has been long understood within Australia's First Peoples' ontologies where Country can 'be talked to, it can be known, it can itself communicate, feel and take action (Bawaka Country et al., 2016). This is reciprocal care where care is 'manifest in actions rather than consciously articulated' (West et al., 2018, 32). The more-than-human relational turn in recent years has helped Western thinkers to come to a deeper understanding of human-nature relations reflective of these ancient ontologies. Work on soils in particular has expanded thinking about the active role of soil and soil life in production systems and as caring *with* humans (Puig de la Bellacasa 2015; Krzywoszynska 2019).

It would be an overreach to suggest farmers engaged in this study had adopted such ontologies, there is not enough evidence to suggest this. This is not to say that farmers are unaware of our dependence and interdependence with nature. Arguably most producers have long understood the act of production to be embedded in the environment and this in itself is reflective of an understanding of interdependence of some kind (e.g. see Tovey 1997). But I want to venture that farmers in this study recognised not only the ecological limits of the land but also that in the act and practice of caring for nature in the day-to-day of production, nature can and does have an active role in contributing to the act of food production. This can be read as an extractivist view of nature as natural capital, that is, if we care for nature, it will provide better yield. But this does not minimise the value that such a belief brings to a renewed culture of farming that occurs in the wake of an understanding that nature is largely uncontrollable and in many ways complex beyond our understanding. In other words, there is evidence that farmers beliefs' and farming practices' fall on a spectrum of collaborations in caring *with* landscapes, soil, atmospheres, and the biota. Katherine Gibson (2020) suggests this is farmers 'being-in-common' with ecological systems. Some farmers acknowledged weakly their interdependence with non-human natures but understood how deeply dependent we are on natural systems, such as the climate. For example, Julie, a native fruit producer in the Wet Tropics talked about the act of production as a mechanism to restore climate systems:

> ' … really for me, the whole reason I did this [start growing native rainforest fruits] in the first place, was to restore rainforest and then I was like, well how do I get other people to put in rainforest? Well they clearly have to be making money before they'll plant a rainforest … [But] that's the reason my husband bought that block of land 30 years ago and why we started doing this 20 years ago … to combat climate change'.

For others, particularly those who had become attuned to soil as lively, a sense of relational interdependence was more apparent. This was not necessarily in an obvious statement that reflected human exceptionalism but in gestures involving farming practices that explicitly engage in thinking about the contribution of complex ecological systems and process to the act of food production. There are numerous small stories I could tell here where I saw this in practice but I limit myself to two for brevity.

Greg is a third generation tropical fruit farmer in the Wet Tropics and farms land his grandfather purchased in the 1920s. Over the years the land has produced a wide variety of commodities including tobacco, rice, paw paw and passionfruit. Greg currently commercially produces avocado and limes, selling into Sydney and Melbourne markets. As we sat surrounded by a thick haze of smoke from a near-by bushfire, Greg explained to me how his thinking has changed in recent years regarding the treatment of root rot in avocado, the most common avocado disease worldwide, caused by the *Phythophthora cinnamomi* pathogen (Weinert and Dickinson 2014). Best practice management for treating root rot is through injection of the chemical potassium phosphonate (Weinert and Dickinson 2014). The disease is spread through water and thus difficult to manage in the Wet Tropics, a region with high annual rainfall, so prevention is key to managing the problem. In recent years Greg has begun to experiment with holistic methods for preventing root rot in his avocadoes including heavy mulching to protect trees' roots and applying microorganisms antagonistic to the *P. cinnamomi* to the soil. Greg laughed as he told me about the later practice:

> *'Yeah, you can go and buy a variety [of microorganisms], but the latest thing here is you're better of going and collecting your indigenous microorganisms from something that's more suited to this climate … Basically, you go and put a food source out in the bush somewhere, where you think might be the best spot and let them come in there and grow [laughing]. Then you come back after a month or something … and you capture them, and then try and breed them up and spread them underneath your trees* (Greg, avocado farmer, Wet Tropics).

There can be an argument that a productivist drive underlies Greg's willingness to experiment with micro-biodiversity. We see a similar logic in much discussion in Australia around integrated pest management for example, which values diversity but only for what it can do for productivity (e.g. Deutscher et al. 2005). But such a reading reflects a paranoid rather than generative stance to Greg's intention here (see Sedgwick 1997 on paranoid reading). While farmers acknowledge the value of diversity for production systems, there is another element in how they talk about diversity that reflects something unknown and complex about the operation of the biological systems underpinning food production. As another farmer Adam articulated:

> I think that's a part of what we've lost over the years with the industrial system – the chemicals and everything else have taken the insects and the spiders and the birds and all that stuff out of the systems. We need to try and bring them all back because they all help each other. I'm trying to think what they are called, the biota or something? It's all that living system. It all interacts with each other and if any of that is out of balance, you start having problems with disease or in your crops of pasture die back or whatever … I know the universities have done lots of studies on what's caused die back but I don't think they've pinned it down. I think it's all those things breaking down. Whether it's too much fertilizer … So I think it's all related. That's another thing we've seen with the science side of things. It's become very reductionist and they're not looking at the whole which is frustrating … they're looking at one thing in isolation and I think we need to look at it in a much bigger picture …. The more I do with this stuff the more I think we don't know. There's so much stuff that we don't know. It's almost overwhelming at times. It's so big. How do you even start to manage it?

Within the productivist model of good farming, there is often very little space for ecological care, care of others, or space to think about the active role nature plays in production. This is argued to be due to political economic imperatives that lock producers in to intensive systems of production or that farmers are unable to work themselves out from under the social pressure of being a 'good' farmer. But for farmers interviewed for this project, there was space not only for caring for nature but also evidence of an ontological shift – weak thought it was in some cases – that recognised the role of complex ecological systems as key actors engaged in food production alongside farmers.

4.3. Collectively learning to 'know' more-than-production as farming

In seeking to break out from a culture of contemporary good farming as productivism, producers in this study were required to rethink a whole range of self-referential and socio-cultural beliefs about what constitutes good farming. This has involved rethinking what counts as good farming and shifting ontological positions to decentre humans as the only beings engaged in the act of production. This rethinking has also involved coming to 'know' new practices that are outside existing cultural norms and incorporate such practices into an understanding of what farming is. For farmers in this project, just as the productivist good

farmer emerged in a community of practice as a 'shared standard between all farmers in a locale' (Burton et al., 2021, 132), so too the rethinking towards good farming as surviving well is a collective pursuit involving generating and sharing new lay knowledges. The ability of farmers to find a shared standard of good farming beyond productivism has been critical to the emergence of this form of good farming.

There is a burgeoning undercurrent of alternative thinking and training opportunities for farmers in Australia who want to engage in more integrated farming practices (e.g. Ferguson and NRLHRG 2016) and these communities of practices have been important sites at which farmers come to know new ways of farming. Many of the livestock farmers I spoke with were informed to more or lesser degrees by training programs based on the work of Allan Savory, a Zimbabwean wildlife biologist, whose teachings are rolled out through two main training programs in Australia, *Grazing for Profit* run by RCS and *Holistic Management*, available through TAFE and private, certified holistic management educators. The Savory approach to livestock farming, which underpins regenerative (livestock-integrated) agriculture practices in Australia, holds rotational or cell grazing of livestock a critical feature (Gosnell et al. 2020; Sherren and Kent 2019). Rotational grazing, in contrast to set stocking, involves moving animals regularly between small 'cells' with the idea that land is 'rested' between grazing allowing it time to recover. Rotational or cell grazing is not a new phenomenon among Australia livestock farmers (see Richards and Lawrence 2009), but when combined with a triple-bottom line approach and a focus on soil and broader ecosystem health, represents a new approach to managing agricultural landscapes (Gosnell et al. 2020) and a movement for regenerative agriculture is emerging globally (Duncan et al. 2021).

Beyond regenerative livestock farming training, farmers talked about the importance of community-based workshops and events for supporting new farming 'know-how'. In the New England I sat in on a 'soil biology field day' run by a local farmer where farmers learned about vermiculture, building soil biology and how to use a microscope to study their soil. Farmers in the Wet Tropics talked about the value of a network associated with a community soil care group for exposing them to different ways of thinking and practicing farming. Greg, a tropical fruit farmer in the Wet Tropics told me:

> '[We] … went down to Tully there the other day for a meeting. Meeting all these people who have gone a lot further than us, so we're learning a lot off them. We're learning what they're willing to share … It's valuable to see what's going on. I mean, you're stuck here in your little corner of the world and you don't get out much, it's really good to go out and see them. I happened to be sitting next to … a fruit farmer from down the coast. He's right into trellising and some of these alternative methods. That was really good for me, just to be able to talk to him for an hour or two, pick his brains'

Farmer-to-farmer interactions like the one Greg describes above were important because they expanded the network in which farmers could engage in 'roadside farming' outside their immediate locale. Along with the legitimacy afforded it through scientific and institutional support, productivist good farming is partially 'known' and stabilised through a practice of 'roadside farming'. Roadside farming involves farming making outward looking judgements of their peers but also involves a reflexive move to manage farming practice in light of these external judgements. It is a crucial mechanism for establishing social status among farmers and influencing management decisions on farm (Burton 2004). For farmers in this project, roadside farming was a common practice and it was a rare farmer that didn't take me to a boundary fence to look over into a neighbouring farm and discuss the difference between here and there. Even for a non-farmer, the differences were often stark. The obvious differences across the fence – levels of ground cover, presence/absence of animals, tree cover – drove farmers in this study further away from productivist practices because what they saw over the fence – loss of ground cover, bare earth, animals being fed hay, few trees – reinforced their beliefs that their practices were moving them in the right direction.

At the extra-local level, technology and the internet complicate how the good farmer is assembled and learns to know because farmers are no longer restricted to learning about what a good farmer is by comparing their practices to other farmers in their immediate locale (Burton et al., 2021). Instead the community of practice has expanded to include the global community. For farmers in this study, the global community was often accessed through YouTube videos of other farmers sharing their practices – like Edward who told me *'One of my sons put YouTube on the phone and I started listing to a few things and those YoutTubes could lead you to other people's YoutTubes'*. Traditional media were also important. For example, Adam, a cattle farmer talked about accessing information through international publications and how this was shifting his farming practice:

> Adam: 'I've been reading the Stockman Grass Farmer magazine which comes out of the States and … It's pretty much the only paper I read these days. It's American based but every now and then there's a bit of Australian stuff in there. It just opens you up to this whole new world … We're just in the process of trying to change the style of cattle we're using. So we're going for a smaller frame cattle which will finish quicker and easier than the current status quo size of cattle in Australia. So this has come from … a guy by the name of Kit Farrow in the States who started basically growing smaller cattle for the grass fed industry … We've just bought some bulls through his genetics.'

For Adam, having access to international publications was important because local publications, such as the best known Australian agricultural and rural farming paper, *The Land*, perpetuated old or traditional models of farming that didn't fit with his conceptualisation of good farming, as he said when I asked him if he read The Land: '*The Land? No not at all!..For the most part it's the industrial model which I am definitely moving away from'*.

One of the key mechanisms that has allowed these farmers to shift their practices has been the diverse and extra-local social network in which they can locate themselves. These extra-local networks have been crucial in allowing farmers to come to know their practices as 'farming'. These groups support farmers' emergent unconventional practices and help farmers to make sense of values, objects and events that appear 'odd' or inappropriate to neighbours and the local community. Such practices – destocking entirely to maintain groundcover, cultivating indigenous microorganisms, spraying biologicals on fields, refusing to feed animals with anything but grass – flow from a revaluing of what counts as farming. But these practice gain legitimacy, not by displacing productivism's thick legitimacy in scientific and institutional policies and structures, but through collective learning that positions these particular practices of production as legitimate. Nevertheless, the local productivist gaze continues to do its work of making particular practices 'odd' or illegitimate forms of farming. This is clear when Katherine – who is a relatively small cattle producer – says of herself '*I'm certainly not what you would call a cattle producer'*, by which she means she is not a productivist livestock farmer because the doesn't prioritise yield. But for the most part, when these farmers look over the fence, the signs of the good, non-productivist farmer are no longer epistemically distant – they are there for them to see.

5. Concluding thoughts

There is no doubt political economic imperatives have driven Australian farmers to productivism. There is also no doubt productivist farming practices have wrought and continue to inflict damage to soils, waterways, and the atmosphere. It seems worthwhile then to tell actually existing stories about counter agri-cultures that manage to defy the productivist imperative and support multispecies flourishing. The

farmers I met and talked with in the course of this project were not the urban dwellers so often featured in stories of alternative agriculture in Australia, nor the stalwarts of Australian alterative agriculture, organic farmers, nor neo-peasant hobby farmers looking for a productive tree change. These were commercial farmers, many second, third and fourth generation, in regional Australia, who cut their farming teeth through the 70s, 80s or 90s when agriculture policy impelled so many to productivism. Against the overwhelmingly dominant good farmer cultural norms that are argued to continue to hold productivism in place, these farmers are journeying towards a belief in and practice of good farming that recognising the value of different ways of farming. These farmers are increasingly attentive to the complexity of ecological systems, including soils, and recognise there is much we (the soil scientists, agronomists, farmers, and consumers) have to learn about what it means to practice good agriculture in this country. This culture of good farming does not mean production is displaced when environmental concerns enter the picture, but rather, such a culture recognises – to varying degrees to be sure – 'the environment is internal to farming itself' (Tovey 1997, 24). This challenges the break between production and conservation evident often in frontier cultures like Australia where agriculture has tended towards monofunctional landscapes, and land has been 'spared' for conservation through its separation from systems of production. Taking care for nature into production systems is less reflective of specialised productivism and more akin to multifunctional agriculture and agroecology models of farming found in mainland Europe and among small holder producers internationally (see for example Bjørkhaug and Richards (2008); Altieri (2009)). Such terms have historically had little purchase in Australian vernacular where policy makers have largely rejected supporting integrated agriculture, arguing such supports are hidden subsidies that distorts markets and free trade agreements (e.g Wynen 2002). Adopting a more integrated view of what farming is has not required a radical shift in ontological position; these farmers are not, like the biodynamic farmers Pigott (2020) observed, sudden 'believers' in more-than-human agency and they largely reject spiritual views on producer-nature relations. But there is evidence of some power shift between farmer-nature. This is evident in farmers holding reverence for ecology's complexity and more-than-knowable quality. This power shift looks like an unsettling of the controlling 'stewards of the land' identity that has long been part of the 'good farmer' complex and an empowering of diverse nature - soil, bacteria, mycorrhizal fungi, worms, cows – who work alongside the farmer in complex ways to make nature edible. The unsettling of human exceptionalism around farm labouring identified here may reflect to some degree Indigenous ontologies of care as reciprocated by non-humans. More research is needed to determine how and to what extent notions of stewardship as anchored in control of nature are being untethered. Collectively though, through local networks and distant others accessed through technology, good farming as surviving well with not more than one needs and with respect to ecological limits is gaining its own thick legitimacy in rural Australia.

Credit author statement

Nicolette Larder: was responsible for Conceptualisation, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Writing – original draft, Writing – review & editing.

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