

Dealing with Climate Grief - Save our soil

Following the recent showing of the film “Kiss the Ground” hosted by Transition Bewdley as part of SustFest I felt moved to look further into the claims and counter-claims about the potential of “Regenerative Farming” to help address the Climate Crisis.

Regular listeners of “The Archers” will have heard the term bandied about but what is “Regenerative Farming”? In essence it is about restoring the health of soil and its micro-organisms to improve fertility and enable soil to sequester Carbon. It also helps to restore biodiversity and eco-system services. Additionally, healthy soil can absorb rain more easily and by maintaining plant cover reduces run-off, water pollution and soil erosion. This will help reduce the problems of local flooding such as we experience locally in towns bordering the River Severn. It should also help to ensure food security in a future subject to increased temperatures, drought and unpredictable weather.

Not only does this approach simulate the way in which nature has maintained eco-systems and planetary health for millions of years but arguably is a return to traditional practices that many farmers on small mixed farms around the world used to steward their land (until subject to the pressures to use artificial fertilisers and pesticides to artificially boost production to the long-term detriment of their land). In its broadest sense, regenerative agriculture can encompass a range of approaches including agro-forestry, permaculture, organic farming, biochar and rewilding, all of which use some of the principles to restore and build soil health.

The principles of Regenerative Farming are;

1. **No-till systems**, which heavily reduce the digging and ploughing that can lead to loosened topsoil being blown away by wind or carried away by water
2. **Cover crops**, which are grown in the soil when the main commercial crop has been harvested, and can be grazed by livestock or harvested themselves
3. **Increasing biodiversity**, which increases the variety of nutrients going into the soil through roots and natural decomposition and, if well-managed, attracts insects which are the natural predators of pests
4. **Rotating crops**, so that what is being taken out and put into soil naturally by plants is balanced
5. **Integrating livestock**, so as to combine animals and plants in a single ecosystem
6. **Minimising chemical inputs**, to minimise negative impact on biodiversity and pollution of waterways due to runoff.

The film that we watched mainly focussed on the restoration of impoverished farmland in USA where the separation of raising livestock from the production of animal feed has resulted in degraded soils. (Hence the plans in The Archers to start moving organic material in the form of slurry from Home Farm to Brookfield, much to the consternation of the nimbies of Ambridge!) However, the approach has significant potential in the UK where the use of artificial fertilisers and pesticides since the First World War led first to improved yields but subsequently to increased dependence on expensive chemicals to try to maintain productivity on gradually degraded soils.

Does Regenerative Agriculture help reverse Climate Change?

It is estimated that 23% of CO₂ emissions globally come from farming.

Proponents claim that restoring soil enables huge amounts of Carbon to be sequestered. Alongside energy conservation measures and development of renewables it certainly gives hope that we can reverse climate change if we act quickly. Claims that if all the world’s agricultural land were to be managed regeneratively they could absorb all the excess CO₂ released into the atmosphere since the Industrial Revolution are almost certainly exaggerated. More conservative estimates suggest that those restored soils could absorb 20% of annual CO₂ emissions. Still a very significant contribution which together with other actions such as tree planting, restoration of peat bogs, seaweed farming etc. could help reach the levels of carbon

sequestration that are needed. By caring and restoring the soil eco-systems, regenerative farming practices can sequester carbon instead of being an emitter.

Critics of the approach also claim that

- Farmers will sometimes need to use more herbicides to deal with weeds that would normally be destroyed by ploughing, thus increasing costs.
- Yields will drop and we will not be able to feed the world's population.
- That for regenerative agriculture to work it is always necessary to keep livestock and thus for humans to keep consuming large amounts of meat.
- Although no tilling can save farmers 30% - 40% of time, there may be reduced yields, at least in the first few years. For the farmer this is offset by the savings on costs of applying expensive herbicides and pesticides but may make it harder to feed a growing world population.

Needless to say, proponents of Regenerative Farming and agriculture counter these claims.

Eg

*"The Rodale Institute has been running side-by-side field studies for the last 30 years, comparing organic and conventional agriculture. Results show that after a 1 to 2 year transition period, when yields tend to decline, there is no difference between conventional and regenerative farming in terms of yields. In stressful conditions, particularly during droughts, the regenerative fields perform better because they are more resilient – the soil can absorb more water because it contains more biomass. And certainly farmers we work with say the yields are the same, while their input costs go down."***Philip Fernandez, Agriculture Project Manager at EIT Food**

Some big food companies are already starting to pay farmers to adopt practices that include soil carbon sequestration. Unilever aim to be carbon neutral across their entire supply chain before 2040. McDonalds UK have embarked on a 4-year project to source beef farmed under regenerative guidelines. The UK Government have stated that **England's** soils must be managed sustainably by 2030.

How can we as individuals engage with regenerative agriculture?

Change our life-style habits:

- We can build our own connections to the land and our food by growing even a few vegetables and fruit in our own gardens
- use no dig methods, planting plants closer together and suppressing weeds by applying organic mulches such as compost or leaf mould.
- Make your own compost using garden waste and use worm composting for cooked food.
- Try making "biochar" to sequester more carbon in your garden soil
- Cook more from scratch and try to eat more seasonally
- Look more carefully at food labels and learn what they mean.

<https://regenerativefoodandfarming.co.uk/food-labels-certifications/>

Use our consumer power

- We can buy at least some of our food from local growers seeking to adopt regenerative practices, either direct from the farms or at local markets.
- Ask local food outlets to stock meat/fruit/vegetables from farmers and growers that practice regenerative farming and agriculture.
- Support local veg box schemes

Educate ourselves. There is a huge amount of information available, some very much advocating regenerative agriculture and inevitably some criticism, given the vested interests of the Agrochemical industry. We need to look carefully at who is funding research.

To learn more about Regenerative farming in UK, what you can do yourself and where to find regenerative farmers <https://regenerativefoodandfarming.co.uk>

A useful article:

<https://www.theguardian.com/environment/2021/aug/11/regenerative-farming-shift-could-reduce-uk-climate-emissions-say-experts>

And a report urging caution

<https://www.wri.org/insights/regenerative-agriculture-good-soil-health-limited-potential-mitigate-climate-change>

and a look at how in order for this to work Government need to integrate the work of Defra and the Department of Health and Social Care,

<https://www.knightfrank.com/research/article/2021-08-05-government-and-farmers-must-work-together-to-prevent-uk-health-and-biodiversity-crisis>

Find out which local farmers and growers are practicing Regenerative Farming and Agriculture and visit them to see what they are doing. Eg Haye Farm near Bewdley. Contact: hayefarm@live.co.uk

Lobby and protest:

- Ask major Supermarkets and food companies what they are doing to support and encourage regenerative principles in food growing.
- Urge your MP to ensure that the Government do not renege on but speed up plans and increase payments for the new payment scheme for farmers (ELMS – Environmental Land Management Scheme) coming through slowly from DEFRA over the next eight years is going to hopefully help the majority of farmers in the UK transition towards regenerative practice.

<https://www.edie.net/farmers-in-england-to-be-paid-for-nature-restoration-and-creation-from-2023/>