



## *Why Is Soil Regeneration So Important?*

The legacy we have created through industrial agriculture is that much of our so-called 'soil' is, in reality, biologically dead dirt. It is literally lifeless. Modern soil science provides insights into how to harness nature to fix this, and indeed, why we should.

We now know healthy soil is an extraordinary web of life. It is teeming with bacteria, actinomycetes, fungi, algae, protozoa, a wide variety of larger soil fauna, including springtails, mites, nematodes, earthworms, ants, other insects that spend all or part of their life underground, and larger organisms such as burrowing rodents. The power source for all this life are, of course, green growing plants. Using carbon dioxide, water, and sunlight, they create photosynthates (sugary "liquid carbons") through photosynthesis. Typically, while 40% of these sugars are used by the plants as food above ground, the balance is translocated to the roots and half of that is exuded into the soil. The largest part of this "exudate" is consumed by microbes and fungi, in exchange for which they provide plants with access to nutrients and minerals.

The scale of life in the soil is remarkable. It is 95% of all life on land. Just a teaspoon of productive soil contains between 100 million and 1 billion individual bacteria of around ten thousand different species. An acre of healthy soil supports a billion invertebrates.

The biology of rich regenerated soil is both resilient and adaptive. It can handle droughts and torrential downpours. This is because healthy soil can absorb nine times its weight in water, while dead dirt holds, effectively, none.

Soil regeneration also leads to carbon sequestration, potentially at a net positive rate of over 13 tonnes of CO<sub>2</sub> equivalent per hectare per year. This reverses the current dynamic, changing farming from a climate problem to a climate solution.

All of these benefits of soil regeneration come together in a transformation to a new and superior paradigm of agricultural productive capacity. Done at scale, it will create a totally different world to our biologically impoverished current reality where our dead dirt is dependent on the annual "heroin hit" of industrial fertilisers to be of any use at all for food production.

**Regenerative agriculture is about ensuring that regenerating soil is an inevitable consequence of agricultural practice**

Making soil the central issue is important because both creating more soil and improving its health are key to an ecologically positive and sustainable outcome. A focus on soil regeneration as the objective represents a seismic shift in our approach from process-orientation to an outcomes-focus. The problem is that even though we may reduce the use of harmful chemicals, - synthetic pesticides, antibiotics, synthetic fertilizers, genetically modified organisms, and growth hormones. soils may continue to degrade, water systems decline, and biodiversity reduce. A dead soil sends topsoil down the river accompanied by a cocktail of pesticides toxic to aquatic life

When we make regenerating soil the focus, we eat food produced with an ecologically positive regenerative approach creating a healthier future for all.

***Farming Secrets says: We can produce affordable, nutrient-dense, healthy food at scale on regenerating soils.***

**Ref:** <https://www.newfoundationfarms.com/regenerative-agriculture/why-would-a-sane-society-support-ecologically-destructive-food-production-when-it-isnt-necessary/>