

Farm Net Zero: Soil recovery at Erth Barton

Overview

Soil recovery after intensive cropping and cultivation needs to integrate the enhancement of:

- Soil biology spanning bacterial and fungal communities through to micro and macro fauna;
- Soil organic matter to feed the soil biology, to improve soil water dynamics and supply and regulate nutrient supply; and
- Soil structure for water percolation and aeration of the plant roots.

Erth Barton is undergoing this transition under the management of Tim Williams.

Objectives

How quickly can soil organic matter and soil biology increase through (i) forage mixture diversity; (ii) rotational grazing and (iii) compost application.

The forage mixture integrates 30 different plant breeds and varieties.

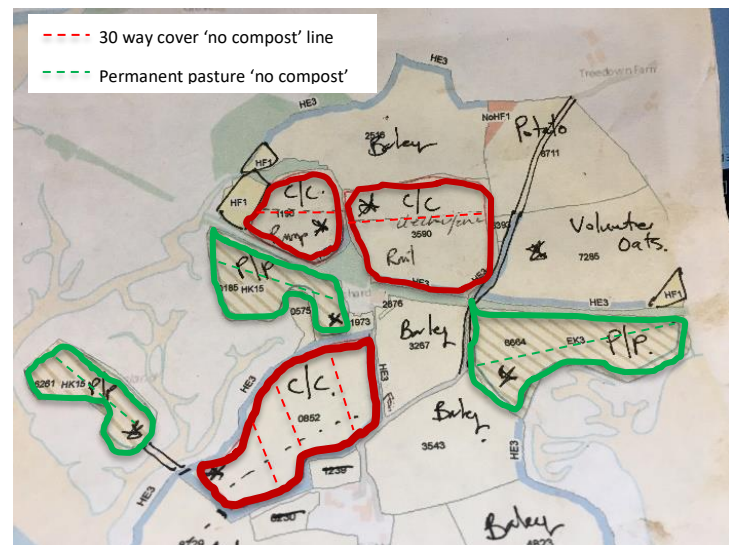
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|----------------------------|----------------------|
| Alsike clover | White millet |
| Red clover | Westerwolds ryegrass |
| White clover (3 varieties) | Festulolium |
| Winter vetch | Cocksfoot |
| Early vetch | Meadow fescue |
| Persian clover | Oats |
| Crimson clover | Tillage radish |
| Sweet clover | Fodder radish |
| Berseem clover | Forage rape |
| Balansa clover | Stubble turnip |
| Fenugreek | Phacelia |
| Birdsfoot trefoil | Ribgrass |
| Lucerne (inoculated) | Yarrow |
| Triticale | Burnet |
| Timothy | Chicory |
| Sunflower | Sheeps parsley |
| Sainfoin | |



Climate compost was initiated by The Land Gardeners, and it is used at Erth Barton as a physical compost as well as a compost tea. The compost is made in batches and is used either as a compost tea, seed primer or as a direct soil amendment.

Farm assessments

Three permanent pasture fields and three newly (2020) seeded fields with Tim's 30-way annual and perennial mix were selected. Within each field a double-passwidth of the field was marked for 'no compost' treatment. Each field was assessed for soil organic matter, aggregate stability, soil structure, and worm count. Repeat measurements across all fields (6 fields x 2 compost treatments) over the next 5 years will determine how quickly soil health parameters change.



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