

Putting soil biology into practice



Martin Howard runs a mixed organic farm near Launceston, Cornwall and is a member of the Tamar Valley Organic Group. He attended the recent Making Soils Smile workshop and discussed the methods that he is using on his farm to highlight the importance of the soil and its function.



"On our farm we go back to soil biology all the time" he says. "It is central to the way we manage our system".

Martin went organic in 2005 and one of the first priorities was to address soil compaction and increase the levels of mycorrhizal fungi activity. As a first step Martin used a contractor to subsoil his permanent pasture followed by a repeat application two years later. As a result of improved structure and movement of water through the soil, significant improvements in grass growth have been seen. *"We know that the grass is more able to draw up nitrogen" he explains. "Now we are not seeing a yellowing of the grass in the winter, as the soils are warmer, and come spring, the grass gets away quicker, is taller, and greener than untreated areas."*

Further evidence of improved soil health has been seen in increased worm numbers and the eradication of areas of rushes that normally thrive in anaerobic conditions.

This is backed up by evidence from soil samples taken before and after sub soiling. *"We tested for mycorrhizal activity and found an increase of over 30% which is very encouraging," he enthuses. "What we need now is a widespread study to provide the evidence to farmers that improving soil health has a real impact on productivity."*

Martin also uses the benefits of mycorrhiza in his approach to cropping. Cereals, grown for animal feeds are inoculated with mycorrhiza, blended on farm, and applied at a rate of 1kg per hectare; the additional cost of this is £26.00 per hectare. *"We see the benefits immediately" says Martin, "With germination occurring within two days."*

The application of mycorrhiza also has had significant impact on outputs with yields now increased from 4.5 to 5.0 tonnes per hectare.

The farm is also exploring other ways to use resources more effectively. Manure is now composted for 12 months, under cover, and is closely monitored for temperature. It is applied at a spread of 24 metres broken into small particles that achieve better crop penetration. *"Our long term aim is to produce all our inputs on farm" says Martin. "By adding value to the resources we can keep costs down and improve productivity" he concludes.*

For more information on soil biology or tips on how to relieve compaction visit the [Soils](#) Section of the the Swarm Hub.



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