

# Taunton Monitor Farm

Meeting title: Healthy soils, healthy crops, less inputs, more margin

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Speakers: Mike Harrington (Edaphos)



## *Integrated farming*

Whether farming intensively or extensively, an integrated approach is required, as we move towards a biological era of farming from a chemical one.

The system should not be product driven; products are only part of the answer. Going forward it will be necessary to reduce the burden on chemistry. Herbicide damage has a huge negative impact on plant nutrition, health, development and yield. In the absence of weeds and disease, many pesticides reduce yield.

Integrated farming requires farming with the soil, not bypassing it. Good soil has to be earned. Once you have it, it can be knocked and it will recover, but not so a poor one. Fertility is the natural product of a soil without intervention. In nature, carbon drives all soils, not nitrogen.

## *A plan for soil*

- Air – the soil needs it
- Build organic matter using cover crops– capture, store and make available nitrogen and other elements
- Minimize purchased nitrogen – Legumes, biological nitrogen fixers, carbon cycling
- Maximise Nitrogen efficiency – always add a carbon/chelating material, consider foliar applications, always evaluate need and consider balance
- Dig holes, take pictures and record comparisons for the future

**Most importantly:** Understand what the plants and soils needs are.

Poor fertility is not solved by adding more N, P, K.

Fertility is really driven by soil biology because it is:

- Microbes that create soil by digesting
- Microbes that manage soil by recycling
- Microbes that maintain soil by rebuilding

Without microbes, we do not have fertility.

## *Diversity*

Diversity is everything, above and below ground, but not necessarily at the beginning.

Let the environment on to the farm. If you provide a home, nature can repair itself very quickly.

Earn the right to reduce insecticides. It should be of huge concern to all of us, for insects are at the heart of every food web, they pollinate the large majority of plant species, keep the soil healthy, recycle nutrients, control pests, and much more. Love them or loathe them, we humans cannot survive without insects

Promote plant disease resistance enabling a reduction in crop protection inputs by promoting the natural immunity of the plant by good plant nutrition, good rooting, less inorganic N and healthy soils.

Always question, manage symptoms but work towards solving the causes. Some problems require recourse to 'old' techniques that can go 'against' the soil. When you have bad black-grass, a change of drill is not going to solve the problem, a paradigm system change is required. Consider all tools – ploughing to regain control is an option.

A systems change can be difficult, it starts in the mind!

Five crucial landscape functions or processes (Allan Savory)

- **The solar energy function**  
Focused on the maximising the capture of solar energy by fixing as many plant sugars, via photosynthesis, as possible
- **The water cycle**  
Focussed on maximising do water infiltration, storage, and recycling in the soil
- **The soil, mineral cycle**  
Focused on inculcating biologically active and healthy soils that contain and recycle a rich lot of diverse minerals and chemicals
- **Dynamic ecosystems**  
Focused on maximum biodiversity and health of integrated ecosystems at all levels
- **The human-social aspect**  
Focused on human agency triggering landscape regeneration by working in harmony with nature in all systems.

### Further information

- [Testing soil health](#)
- [Soil assessment methods](#)
- [Soil health and biology partnership \(91140002\)](#)
- [Using the soil health scorecard case studies](#)
- More information from the GREATsoils programme can be found at [ahdb.org.uk/greatsoils](http://ahdb.org.uk/greatsoils)
- [Nutrient Management Guide \(RB209\)](#)
- [Webinar: Crop yields and how to maximise potential](#)
- Impact of cultivations on crop rooting at [Strategic Cereal Farm – West](#)
- [Farmbench](#)
- David Pett, Regional benchmarking officer (AHDB) – [david.pett@ahdb.org.uk](mailto:david.pett@ahdb.org.uk) / 07813 454 537

### AHDB resources

- Understand your business costs with AHDB's benchmarking tool Farmbench at [ahdb.org.uk/farmbench](http://ahdb.org.uk/farmbench)
- Monitoring tools are available at [ahdb.org.uk/tools](http://ahdb.org.uk/tools)
- Sign up to market information and research newsletters at [ahdb.org.uk/keeping-in-touch](http://ahdb.org.uk/keeping-in-touch)
- Find out what's going on at other Monitor Farms and Strategic Farms at [ahdb.org.uk/farm-excellence](http://ahdb.org.uk/farm-excellence)
- All AHDB events can be found at [ahdb.org.uk/events](http://ahdb.org.uk/events)
- For guidance on how Brexit will impact your business, see [ahdb.org.uk/brexit](http://ahdb.org.uk/brexit)

## *Contact details*

**For more information contact:** Philip Dolbear

E: [Philip.dolbear@ahdb.org.uk](mailto:Philip.dolbear@ahdb.org.uk) M: 07964 255614

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