Environmental Land Management

Testing and Trials

Proposal/idea

Submitted by Elizabeth Stockdale, NIAB

Working with the AHDB-BBRO Soil Biology and Soil Health Research Partnership, the Sustainable Soils Alliance (SSA), UK Soil Health initiative (UKSHi, now aligned with CFE)
1. Please describe your proposal/idea(s) and its key objective(s) [max 300 words]

In answering this please consider:
- How does your proposal/idea link in with the 25 year environment plan objectives?
- Is there any evidence and/or past experience to support this proposal?
- Have other options or approaches been considered or tried?

This proposal tests a soil health scorecard approach (SHsc) to assess site suitability for achievement of public goods through soil management options within ELMs. This will be achieved by:

- Using a facilitated stakeholder workshop to update the SHsc (developed with a productivity focus by the AHDB-BBRO Soil Biology and Soil Health Partnership, SBSH) to ensure natural capital principles are embedded through its indicators and interpretation frameworks;
- Testing the SHsc with existing farmer stakeholder groups to support site-specific selection of soil management options most likely to optimise delivery of public goods within profitable and sustainable production systems, considering the quantification of non-market goods and services and any ‘additional’ management costs of achieving them;
- Establishing a clear approach to the use of SHsc as one approach to select practices for site-specific ELM contracts.

The findings could be rapidly scaled up to trial. Ideally, we would collaborate with other approved tests / trials e.g. Catchment Sensitive Farming, National Trust, Wildlife Trusts in this phase.

A healthy soil provides both productivity and environmental outcomes within ecosystem and land use constraints (FAO 2008). Soil management can both improve and degrade soil health, hence improvement in soil health is an important goal within the 25-year Environment Plan. Soil management should be underpinned by an understanding of local factors and inherent properties of soils (driven by interactions of geology, topography, climate *inter alia*) and targeted measurements of soil health at rotational level. Farmers and land managers can struggle to monitor soil quality, which in turn makes it difficult to improve or target interventions in both space and time. The focus here is on using measured soil properties to support selection of combinations of interventions that deliver best integrated outcomes at farm scale (i.e. environmental goods and services together with high value produce for market) through targeted action.

2. Please describe what innovation your proposal/idea(s) bring(s) to the new Environmental Land Management system? [max 250 words]

In answering this please consider:

- Have you drawn on expertise inside and outside of your organisation?
- Have other options or approaches been considered or tried?
- What is the balance between cost and benefit/quality derived from this proposal/idea?
- Why is this proposal/idea suitable for a test and/or trial?
- What would happen if we didn’t test and/or trial the proposal/ideas?

The test/trial builds on an innovative collaborative approach between researchers (natural and social science), knowledge exchange leaders, agronomists, agricultural analysis companies, environmental NGOs, water companies and others (in both the SSA and UKSHi) to i) improve on-farm understanding of soil health by sharing current academic and industry knowledge; ii) develop and validate indicators of soil biology and iii) deliver practicable soil health assessment on-farm. In particular the proposal takes the opportunity to build on the development of the SHsc within the AHDB-BBRO SBSH. Hence the proposal brings the public, private and third sector together to work with the agricultural community and draws on a wide depth and breadth of understanding to integrate measures of soil health and targeted selection of interventions within ELMs.

The proposal allows site-specific measures (of soil health indicators) to be used to inform the co-design of ELM contracts so that the land management approaches adopted are optimised for the locality, prioritised spatially and most likely to deliver public goods whilst supporting profitable and sustainable production. Site selection for future trials will consider both typical farming systems and also high-risk farms with soil problems (e.g. winter vegetables/flowers in Cornwall, large scale sheep farming on moors, intensive dairy farming in high rainfall areas). Although the approach is developed and tested with a focus on soil health, work with Defra and other ELM testing projects will also allow cross-learning about the value and challenges of locally-adapted co-design approaches.

3. How does your proposal/idea(s) link in with the 25 year environment plan objectives? [max 200 words]

In answering this please consider:

- What specific outcomes will you be targeting / will potentially be impacted? What aspects of your proposal/idea have been informed by the 25 year environment plan?
- What land management practices do you plan to use to deliver these outcomes?
- Have you considered/factored in any potential social/public benefits, as well as the natural benefits within your proposal/idea(s)?

Together with the aim of the 25-year Environment Plan to improve soil health; Policy 3.i is described as ‘Developing better information on soil health’. Defra is developing a healthy soil index to allow reporting at a national level.

This proposal helps to align existing industry approaches to soil health with the 25-year Environment Plan by ensuring that the natural capital approach is fully embedded so that on-farm decisions about land management approaches can also be optimised to deliver the environmental goods and services needed locally (e.g. flood mitigation) and nationally (e.g. carbon sequestration). Wider soil health tests are now available from most of the major UK soil testing laboratories. A common SHsc allows detection of the impacts of soil management interventions, benchmarking between farms, information-sharing and guidance
and support for the adoption of practices which lead to improvement in soil resilience and productivity outcomes on farm. Co-ordinated soil data collection (citizen science) at local level will also allow data streams to be better integrated in future.

4. **What are the specific risks with the proposal/idea(s) and what are your plans to control or mitigate against these? [Max 250 words].**

<table>
<thead>
<tr>
<th>Risk</th>
<th>Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of stakeholder engagement</td>
<td>Proposal builds on very effective existing stakeholder engagement around soil health through the Sustainable Soils Alliance, UK Soil Health initiative and more widely.</td>
</tr>
<tr>
<td>Lack of willingness of existing farmer groups to expand their consideration of soil health to explicitly consider public goods delivery</td>
<td>The link between soil health measures for productivity, potential developments in national monitoring of soil health and ELM are already topics of regular discussion on farm. As findings from our previous activities indicate, this alignment is valued by farmer groups and most groups are expected to agree to participate. Stakeholder networks also have a range of other on-going farmer interactions and discussion groups that could be approached.</td>
</tr>
<tr>
<td>Lack of engagement - with the main 'problem end' of farming</td>
<td>Current farmer groups may be the collation of the willing and engaged. Interaction with, and delivery alongside, existing ELMs testing/trials including but not only Catchment Sensitive Farming will help to support effective engagement. The topic area of better soils management is one that is widely recognised by farmers as being potentially win-win and hence by working with local advisors/groups trust can be built to facilitate engagement.</td>
</tr>
</tbody>
</table>