

House of Commons:

ENVIRONMENT, FOOD AND RURAL AFFAIRS SELECT COMMITTEE

Soil Health

Call for written evidence:

**Submission from the Agriculture and Horticulture Development Board
(AHDB)**

3 February 2023

AHDB

AHDB is a statutory levy board funded by farmers and others in the supply chain. Its purpose is to be a critical enabler, to positively influence outcomes, allowing farmers and others in the supply chain to be competitive, successful and share good practice. It equips levy payers with easy-to-use products, tools and services to help them make informed decisions and improve business performance. Established in 2008 and classified as a Non-Departmental Public Body (NDPB), AHDB supports the following industries: meat and livestock (Beef, Lamb and Pork) in England; Dairy in Great Britain; and Cereals and Oilseeds in the UK.

Please note: As an evidence-based non-departmental public body (NDPB) AHDB is not in a position to comment/speculate on all questions relating to this inquiry.

AHDB welcomes the opportunity to provide written evidence to the committee and would be happy to provide a witness to give further information at future oral evidence sessions.

The focus of the AHDB response relates to arable crop and livestock production.

Summary

AHDB's inquiry submission details:

- The lack of formally agreed standards to measure and monitor soil health on a national level
- The timeframe for soil health improvements mean prolonged commitment and investment is required
- The effectiveness of current soil health regulations and potential incentivised options to potentially deliver better soil health
- The varying cost implications for farm businesses of Environmental Land Management schemes (ELMs)

Inquiry questions and AHDB's response

1. ***How can the Government measure progress towards its goal of making all soils sustainably managed by 2030? What are the challenges in gathering data to measure soil health how can these barriers be overcome?***
2. There perhaps needs to be further clarity on what defines 'sustainably managed'. Nevertheless, farmers need to make decisions on soil management based on their own farm business and site-specific circumstances. Due to the range of soil types, climatic regions, and management history of individual fields (e.g. rotation, cultivation, drainage, use of organic amendments and other inputs), there is no single solution to sustainable soil management and a flexible approach is required.
3. To measure progress a baseline needs to be set. However, there are no formally agreed standards to measure or monitor soil health. This can lead to fragmentation of methods and data collection, according to the requirements of the end-user(s), who may have different objectives for gathering soil data.
 - a. There is no agreed standard set of soil health metrics or indicators for which data are required, although there is consensus that data should include a range of physical, chemical and biological attributes¹. A wide range of production systems needs to be taken into account, and different metrics may be needed for different land-uses.
 - b. There is no agreed standard approach to sampling for soil health measurements (including location, depth, frequency, methodology).
 - c. There is no agreed standard way to curate the data collected for soil health measurements. In-field measurements may be subjective. Results of laboratory analyses may depend on the methods used by that laboratory, although it is notable that most UK laboratories are members of the Professional Agricultural Analysis Group (PAAG), which ensures a common quality standard for soil nutrient analysis.
4. Satellite based technologies are available that can detect soil moisture, soil movement and carbon emissions on a field-by-field basis. The same technology could help land managers build soil health, although ground-truthing of the data may be required as well.
5. Barriers may be overcome by developing an agreed national framework for measuring and monitoring soil health. The end purpose for gathering the data needs to be clear. This will require agreement from multiple parties to be able to establish an approach that meets all needs. Targets for soil health may vary for different soil types, production systems or land-uses, depending on the starting point (baseline measures).
6. Gathering data in itself does not translate into improvements in soil health, where improvements are required. Soil health data needs contextual interpretation and guidance to implement any required change in practice.
7. AHDB supported the development of a soil health scorecard through the levy-funded [Soil Biology and Soil Health Partnership](#). This provides a sampling protocol and benchmarks^{2,3} for a suite of physical, chemical and biological indicators of soil health to help levy-payers with routine on-farm measurement and monitoring of soil health (for self-assessment on their own farms). These benchmarks are relevant to mineral topsoils in cropping and lowland grassland systems. Data collected by the land manager for the soil health scorecard can be used to inform soil management decisions, without being prescriptive on soil management approach. A range of resources to support good practice soil management are available at ahdb.org.uk/greatsoils

¹ [Griffiths et al \(2018\). Selecting methods to measure soil health and soil biology and the development of a soil health scorecard. AHDB report 91140002-02](#)

² [AHDB Soil health scorecard protocol and benchmarking - England and Wales \(v1.0\)](#)

³ [AHDB Soil health scorecard protocol and benchmarking – Scotland \(v1.0\)](#)

- 8. Do current regulations ensure that all landowners/land managers maintain and/or improve soil health? If not, how should they be improved?**
9. Current regulations do not ensure that all landowners/land managers maintain and/or improve soil health specifically. This is largely left to individuals concerned to manage within the context of their own farm business and production system. Other regulations and guidance for the prevention of water pollution (eg Farming Rules for Water, Nitrate Vulnerable Zones) may be relevant for some practices that cross-over soil health and nutrient management, such as the application of organic amendments to soil.
10. If specific soil health regulations were to be introduced, they would be difficult to enforce due to the lack of baseline data and lack of enforcement by existing regulatory bodies; they are likely to result in few measurable outcomes whilst increasing complexity or costs. AHDB would favour an approach that provides voluntary incentives that would support landowners and land managers to work in partnership to deliver improved soil health.
- 11. Will the standards under Environmental Land Management schemes have sufficient ambition and flexibility to restore soils across different types of agricultural land? What are the threats and opportunities for soil health as ELMs are introduced?**
12. Currently there is a lack of evidence that the Environmental Land Management Schemes (ELMs) have sufficient ambition and flexibility to restore agricultural soils, where required. The current ELMs are subject to high levels of uncertainty, and commodity prices are relatively high which makes accessing the ELMs look unattractive to many farmers, especially in land sparing schemes due to the levels of income foregone. If these trends continue, there may be low uptake of the schemes and therefore low uptake of methodologies to drive change.
13. Improving soil health is in the farmer's interest as well as for wider good, although farmers will have different starting points on a journey to improve soil health. Building soil health can take years or decades. This timeframe means that farmers may see little or no return on their investment for a long period and may initially see reductions in yield or reduced profitability when implementing a change in soil management approach. This means the commitment might not be financially viable without other support or incentives, as prolonged investment is required.
14. In addition to the above, given the long-term nature of the objective, the scheme/funding will need to be ring fenced to protect it from changes to government or economic crisis etc.
15. It is important to understand the costs involved in participating in the ELMs and the impact this has on the farm business⁴. If farmers think the ELMs payments are not enough and they do more intensive farming to get higher yields and more revenue, this could be detrimental to soil overall and have the opposite effect to the desired outcome. Following the recently published detail that offers clarity on the Sustainable Farming Incentive (SFI) and Countryside Stewardship schemes, AHDB will be analysing the impact on farm businesses so levy payers can make well-informed decisions.
16. ELMs is not yet specifically targeted for moorland, commons or tenanted land so a gap exists there. The latest announcement on SFI contains more attractive elements for tenanted farms, but they will not necessarily benefit from the long-term gains in productivity that many of the soil schemes aim to achieve.
17. The private sector is also increasingly interested in promoting the environmental and sustainability credentials of their products. Private schemes for carbon sequestration may crowd out ELMs if payments are not competitive. There will also be some opportunities for offsets for biodiversity net gain, and soil health may be a sub-set of these schemes. Its highly likely that the private sector will only be interested in investing into high quality, long-term schemes that provide additionality, whereas the ELMs have the important role of supporting the development of baselines, basic measures and measurement. A more focused approach in conjunction with the private sector may help to bridge the gap between funding expectations and income requirements for levy payers.

18. There needs to be flexibility in measurement. Farmers may do all the right things but unexpected events (eg extreme weather) mean that the outcomes do not match expectations.

19. *What changes do we need to see in the wider food and agriculture sector to encourage better soil management and how can the Government support this transition?*

20. The wider food and agricultural sector is not paid to manage soil, but to produce a cash-crop. The costs of soil management and health are largely externalised from the cost of production. In order to get a greater focus, soil health and protection needs to be financed. As previously mentioned, building soil health can take years or decades. This timeframe means that farmers may see little or no return on their investment for a long period and may initially see reductions in yield or reduced profitability when implementing a change in soil management approach. This means the commitment might not be financially viable without other support or incentives, as prolonged investment is required. However, if this cost is passed through to the end-consumer this may add a significant cost to food, which for many is already too high given the current cost of living crisis. For the uptake of soil improvement schemes to be sufficient to achieve the set targets for soil health, farmers will need to be incentivised or the additional cost may lead to more food price inflation.

21. *Further information*

22. Any queries relating to this submission should, in the first instance, be directed to Andy Hutson, AHDB Senior PR and Public Affairs Manager, Agriculture and Horticulture Development Board, Stoneleigh Park, Kenilworth, Warwickshire CV8 2TL. T: 024 7647 8822 E: andy.hutson@ahdb.org.uk