August 2022

Soil Health Industry Platform (SHIP)
Meeting Summary

Introduction

On 28th July 2022, the Sustainable Soils Alliance (SSA) hosted the third meeting of the **Soil Health Industry Platform (SHIP)** - a collaborative initiative that aims to discuss, harness, align and amplify the efforts of major food and drink businesses (retail and manufacture) to improve soil health and address soil damage throughout the UK supply chain.

The meeting was attended by representatives of all 10 members of the Platform: Tesco, Sainsbury's, Waitrose, Morrisons, Kellogg's, Nestlé, Yeo Valley, Arla, Nomad Foods, and PepsiCo as well as guest organisations, the Environment Agency, NIAB and WWF.

The following is a summary, under Chatham House rules, of the discussions and decisions made during the meeting, organised according to the three key SHIP components, **Knowledge Exchange, Projects** and **Public Commitment.**

1. **Knowledge Exchange:** *An overview of relevant soil initiatives*

The meeting began with a discussion of relevant soil related policies and initiatives that have taken place since the previous (May) SHIP meeting, based on the briefing note that had been disseminated in advance. Morrisons and Nestlé provided further detail on their new schemes:

- *Morrisons' Sustainable Beef and Lamb Scheme*

Morrisons have previously launched an aspiration to be supplied by a collectively Net Zero British farm supply chain by 2030, and as part of this have been working with farmers on their road to Net Zero – including a more holistic approach beyond carbon reduction (soil health improvements and biodiversity action plans). This is why they have been working with the Sustainable Food Trust's Global Farm Metrics; some of which are now captured in the Red Tractor's environmental module.

The Sustainable Beef and Lamb scheme is working with the Red Tractor team as part of their test and trial group to assess best practice. These metrics/standards are being aligned with rewards and incentives - including a premium for cattle being finished at 18 months of age and on a sustainable diet. More incentives will be added as the scheme progresses - it aims to be responsive and flexible to apply learnings along the way.

- *Nestlé's Wheat Plan*

Nestlé's recently launched Wheat Plan is working with Landscape Enterprise Networks (LENs) (as discussed during May's SHIP meeting) to implement regenerative agriculture and solutions on farms, by engaging and supporting farmers to implement practices. Its aim is to restore a wider farm landscape - making it more resilient and including an insetting approach to carbon reduction. The Plan will be expanded over the next few years and explore how to measure soil carbon with a smaller group of farmers in the near future.

Both businesses invited participants to get in touch to learn more and discuss either one of these initiatives further.

2. **Specific Projects:** *How can the Supply Chain contribute to the improvement of soil health*

Project 1: Risk Mitigation and Reduction in the Supply Chain

Following the conclusions of the SSA's *Soil in the UK Supply Chain* report and agreement at the May meeting that the issue of soil risk mitigation and reduction is a neglected aspect of the supply chain's understanding of its impact on soil - the SSA presented the start of their mapping exercise looking at which risks are associated with different farming types. A representative of the Environment Agency was invited to discuss the areas that businesses should be turning their attention to.

Environment Agency Perspective

- Whilst all farming sectors can be responsible for highly visible, catastrophic soil erosion and degradation, this is diminishing thanks to the increased policing of regulations. Localised problems will be reported to the Agency when bad practice is made worse by weather conditions.
- However, arguably greater risks to soils are invisible and this is why it is crucial to look at a soil's 'context': its health according to soil type and the state of its subsoil.
- Farmers may think that they are doing the right thing with practices such as minimum tillage and direct drilling - however these practices may not have their desired effects if such context is ignored.
- Some soil types are more resilient than others i.e. a healthy free draining soil should not be flooding, unless it has compacted subsoil causing a drainage problem.
- Compacted subsoil (20-40cm) shortens a crop's root length causing:
    - Yield loss,
    - Reduced climate change resilience,
    - Compromised water management (flood/drought).
- Field investigations (Palmer and Smith, 2013) between 2002 and 2011 on farms in the South West (SW) of England using visual soil assessment (assessing soil structure) on soil surface, topsoil and subsoil, revealed 38% of the SW had degraded soil structure causing severe unnatural run off.
- Currently the agricultural industry is too focused on practices ie. minimum tillage or cover cropping. However, it is the management and timing of these practices according to context (subsoil compaction, soil type) that is important rather than the process itself.
    - This is exemplified by research conducted with the Maize Growers Association (Clements et al, 2002) quantifying runoff under different treatments (undersowing, cover crop, stubble, chisel plough). The order of runoff magnitude differed according to the level of soil compaction rather than whether soil was bare or the type of tillage system.
    - This demonstrated that soil health must first be measured in its whole profile (both top and subsoil) in order to understand whether the soil is resilient and in a healthy condition, prior to implementing any practices.
- Whilst there is currently a lack of agreement on a common soil type framework and soil metrics, Defra is in the process of developing soil structure metrics for the agriculture industry - being piloted through the Sustainable Farming Incentive (SFI). These metrics are Soil Organic Matter (SOM), earthworms, and Visual Assessment (VA) - for both topsoil and

subsoils.

- Addressing soil compaction will once again require an understanding of the soil's context. For example, research with Plymouth University (Murphy et al, 2020) demonstrates how compacted soils in the uplands area can be recovered via planting native woodlands and help reduce flood risk.
- For certain clay soils (60% of England) - planting crops alone will not address compaction/drainage issues - further interventions are needed to manage the subsoil and drainage of these soils.

Discussion and next steps

- Questions were raised concerning the impact of harvesting root crops in adverse conditions. Two videos by the Environment Agency were recommended (part 1 and part 2) which capture this incident and highlight the causes and potential solutions. This is particularly a problem with winter harvesting (which is inevitable). However, increased scale makes problems worse. It is important not to farm wall to wall and to include infrastructure to divert water.
- In terms of what role businesses should play in mitigating and reducing these risks to soil health, the following points were raised:
    - Often the main issue is one of lack of awareness - farmers may think they are doing the right thing whilst businesses think they are encouraging the right practices but they do not understand the context. Context must be understood and solutions can be identified in partnership with farmers, the Environment Agency and the rest of the supply chain.
    - Pressure from businesses on supplying farmers to deliver a certain amount of crops all year round for low prices can lead to farmers not being able to invest in their soil's health and fail to comply with regulations to meet market requirements. There is a role for businesses to reduce their pressure on farmers and build in contingency as part of their supplier contracts.
    - Businesses can adopt a more flexible approach to soil health management and practices than governments or regulations can - so there is an important role for them to play in helping farmers find solutions, encouraging farmers to understand their context and enabling them to implement the correct practices according to this context.
    - In terms of practical guidance according to farm type - the UK Soil Health Initiative Guides developed by the WWF and Tesco partnership with NIAB were suggested as useful resources.
    - It was also suggested that understanding the practical solutions to the issue of winter harvesting of root crops, such as building in sustainable rural drainage or flood management systems, would be a useful next step to develop - to ensure that businesses' global commitments are underpinned by feasible on the ground practices.
    - Providing decent payments for farmers to test their soils is an important first step - whilst the SFI can facilitate this, there is also a need for industry leadership in implementing common soil metrics (see Project 2 below). Scientists and Defra are seeking alignment; the agricultural industry will need to promote this.
    - In the context of potential future SFI requirements - it was highlighted that outcomes should be prioritised over process: Ensuring soils meet benchmarks for soil structure (SOM, earthworms and Visual Assessment) according to soil type, rather than focusing on how this is achieved (ie. with or without ploughing). On-farm decisions should be underpinned by soils data.

- **SHIP members agreed that this was incredibly useful information - and that it would be beneficial to have this information packaged up into a format that is shareable internally within individual businesses. A first step will be to explain the problem which will then lead to identifying solutions.**
- **The SSA will continue the mapping exercise to identify soil risks according to farm types and will seek to understand what mitigating actions businesses can implement.**
- **The SSA will explore the extent to which the Environment Agency is currently engaging with supply chain businesses.**

Project 2: Soil Measurement Initiatives

Building on past discussions around the need for a consistent approach to soil metrics, businesses were sent an email prior to the meeting on a project seeking to digitising the AHDB Soil Health Scorecard, which can be seen as a first step in building much needed alignment across industry and policy. Background to the Scorecard was given at the previous SHIP meeting in May, an update and some examples of ways in which businesses can support this work were offered:

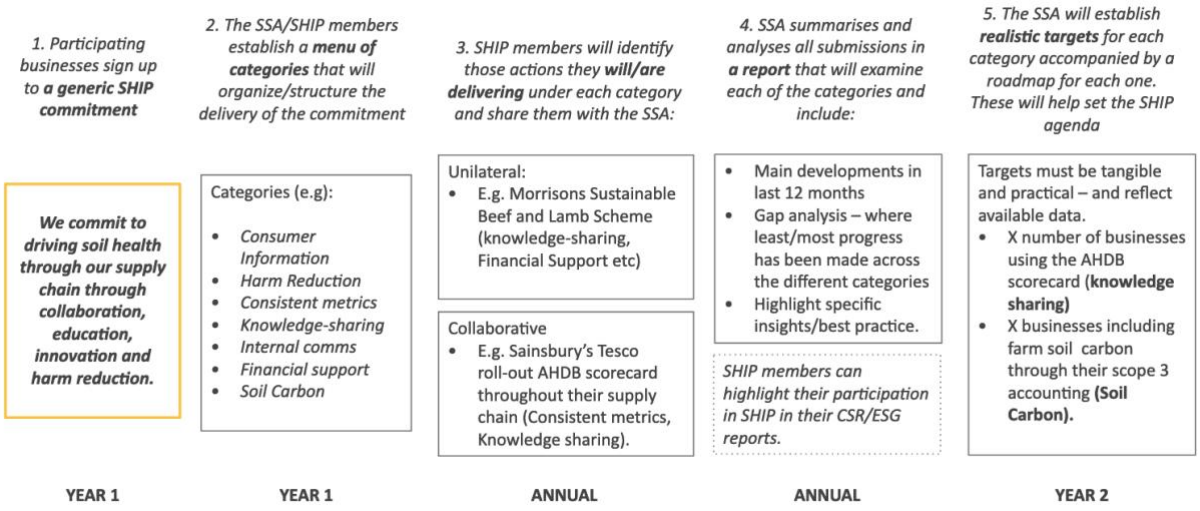
- The central point of this work is the creation of a digital space for soil health data to be collated and stored. NIAB and ABACO (leading player in land management software in Europe, working with governments on delivering CAP payments, including the RPA in England) are working on a Minimum Viable Product (MVP) which some of the businesses present are already using in their supply chain.
- The app and dashboard are ready and can be shared with interested businesses. There will be a trial starting in September which will last approximately three months (small set up cost) to receive feedback before the product is launched in the marketplace.
- The aim is to now use the UKRI Farming Innovation Programme (research and development funding pot) to add value to this digital platform by collaborating with others to align and create a central point of gravity for soil health. Collaborative work packages can include extending the app to other land uses, developing better indicators for lowland peat systems, supporting farmer supply groups to come together and be informed by this soil data, link soil data to water quality data, soil carbon benchmarking.
- There will be many ways of collating and sharing data that will be useful to businesses - this work seeks to encompass as many of these as possible to make sure this soil data can be used throughout the supply chain and allow it to benchmark itself according to the context referred to in the previous session of this meeting. Interested businesses are welcomed to suggest areas of focused interest that the digital platform could provide.

Next steps

- **UKRI applications are due to open in the Autumn (official date TBC), so those interested in joining the bid are invited to reach out and start conversations August-September.**
- **Those interested in joining the September trials of the MVP are also invited to get in touch.**

3. **Shared Commitment/Target:** *How can the Supply Chain demonstrate collective/measurable commitment to delivering soil health*

From the beginning, the aim of SHIP has been to have a shared commitment/target to align and represent the work being done. Following the past SHIP meeting and having had conversations with some of the participating businesses and WWF, the shared commitment/target has been tweaked as follows:



The component elements, and the rationale behind this approach were summarised as follows:

- **A generic SHIP commitment**: Based on process rather than a tangible result which would be counterproductive.
- **Menu of categories**: SSA and partners will identify a number of categories based on SHIP meetings and the findings in the *Soil in the UK Supply Chain* report. This will provide a mechanism for organising activities that can be pursued individually by businesses or in a more aligned manner to deliver tangible outcomes for soil health.
- **Identify individual actions each business is taking**: Using the above categories to identify the different steps each business is doing. These will be analysed to understand how they are contributing to these categories. The current collaborative SHIP projects will also be included in this.
- **Annual report and gap analysis:** The SSA will look at all the initiatives that have emerged and evolved in the past 12 months, analyse them according to each category and develop a gap analysis. Having done this, businesses will be able to mention their involvement in SHIP in CSR/ESG reports.
- **Establish realistic targets**: As a second phase of this work, specific targets within these categories may be developed - where it is judged that targets will bring focus and momentum to achieve a realistic goal.
- This approach will enable the SHIP to strike a balance between a loose knowledge sharing platform and dealing with global brands with pre-existing global commitments that shouldn't be put in conflict.

Discussion and next steps

- WWF's perspective is that this is a useful roadmap as benefits to soils are reversible, incremental, and are non-exclusive - hence cross-sector collaboration on soil is necessary. SHIP addresses the complexity of soil by viewing them for themselves (not through a carbon or water lens). However, whilst policy updates are very useful to the businesses present, signing up to such a commitment will hold businesses accountable to the changes in soil health we want to see.
- Businesses agreed this was a useful roadmap - a generic target will be useful but with time it will also be useful to have more tangible targets that will need careful drafting. This will also enable businesses to showcase all the work that they are doing in a concrete manner in one place.
- Businesses can also learn about each other's projects and identify areas where collaboration is possible.
- It was noted that whilst this initiative is unique as it is UK and soil focused, it will also complement international commitments and initiatives such as the Sustainable Markets

Initiative (SMI). The SMI will be publishing research in the Autumn and a representative has been invited to present at the next meeting to understand where ambitions can align.

- A question was also raised about WWF's Basket Metric for retailers. SHIP is referenced in the Blueprint for Action - participating in this Platform is one of the actions businesses should be taking to halve the environmental impact of shopping basket by 2030.
- In time, a commitment may also include a soil framework agreed by both industry and government - ensuring alignment with government can be a condition of SHIP and eventually SHIP may also push for the government to commit to embedding some of the best practices developed by businesses into a regulatory framework.
- **The SSA will explore whether there are international case studies to learn from in terms of soil commitments and follow up on Courtauld's work on water.**
- **The SSA will have individual calls with businesses to discuss this work in more detail.**
- **The SSA will develop the roadmap further, including drafting the commitment and coming up with categories.**

Next Meeting

- **The next meeting will take place at the end of September (a doodle poll will be sent out in due course). Guests may include individuals from ADAS, NFU, SMI - businesses are invited to suggest others they would like to hear from.**