



“ Consider how long it’ll be there, what weed problems might be exaggerated and whether it suits your cultivation strategy. ”

Hutchinsons’ SFI day

Beyond hedges and edges

Ensuring SFI actions are used appropriately to not only meet the requirements of the scheme, but deliver tangible gains for individual farming businesses too, was the theme of a recent open day. CPM joined the discussion hosted by Hutchinsons.

By Janine Adamson

Since its launch in 2022, growing numbers of farmers are engaging with SFI (Sustainable Farming Incentive), and during this time, knowledge surrounding the scheme’s role within wider production systems has developed apace.

As such, the picture is becoming clearer regarding when, where and how to use each of the various SFI actions, as well as their impact on cropping rotations.

To help demonstrate this knowledge in action, Hutchinsons invited growers to an open day at its environmental trial site at Warboys in Cambridgeshire, hosted by 180ha family farm, P F England & Son.

At the first stop on the site tour was regional technical support manager, Alice

Cannon, who discussed the benefits of different cover crop species. “We want to understand which species to use and why we’re using them, to make sure we achieve the farming benefits rather than just a payment,” she said.

The first example Alice provided was phacelia, which she explained is fantastic for pollinators when it comes into flower. “Having dug with a spade, you’ll see that this land – which is high in magnesium and likes to stick together – is tight, but the phacelia is starting to crumble the soil surface (top 5-8cm).”

Species diversity

“Phacelia is also a good component for SFI because you require a herb in a lot of the spring and summer cover crop options for the 2024 offer. Diversity is key and being a herb, it ticks that box for both farm rotations and environmental benefits,” she said.

Moving to gold of pleasure (known as camelina or false flax), Alice highlighted that it’s one of her favourite cover crop species due to its effective deep taproot and web of side roots. “As a result it holds sandy soils together while breaking up clay or high-magnesium soils, improving friability.”

She warned that although it’s great as a cover crop, using gold of pleasure or linseed as a cereal companion crop might not work due to its sensitivity to residual herbicides. As such, more learning is required before this is advocated, with peas or beans more suited in this position, she noted.

Alice then raised issues associated with mustard, which although is cheap and similar to barley and oats, requires careful management. “Mustard goes into stem extension very early and is a tall crop that has a high lignin content in the stem making the biomass a challenge when it comes to machinery following the cover crop.

“The biomass has a high carbon-to-nitrogen (C:N) ratio which temporarily locks up the available nitrogen in the soil which is used by the biology to break down the biomass. If not managed correctly, this can lead to a yield loss of



Regional technical support manager, Alice Cannon, said it’s important to understand which cover crop species to use and why, to make sure wider farming benefits are achieved rather than just an SFI payment.



Soils services specialist, Jade Prince, suggested that when looking at soil analysis, quantifying active carbon will indicate how much organic matter is being broken down by biological activity.

► 30-50%, according to our trials work.”

She added that while cover crop biomass above ground is great for pollinators, it's important to learn how to manage such species properly to reduce the impact on subsequent commercial crops. “Ultimately don't use great quantities of them, and use them in a wider blend,” she said.

A success story for Alice has been buckwheat, which she said she used to hate. “It turns out it's just learning how to manage it.” Among the benefits, she listed it's a valid companion crop for oilseed rape, has a long flowering period for pollinators and forages for phosphorus very well.

“When we look at soil with the spade, buckwheat has made the soil so friable because it's well establishing – drill from July into August. September-drilled buckwheat has limited benefits due to slower/smaller growth as a result of cooler weather conditions.”

She also sees value in vetch, which being a legume is nitrogen fixing. “Again, you're looking at an August drilling date – as with most of these options they want to be in earlier rather than later.”

To round up, she stressed that although these options have been presented as individual straights, the key is diversity. “According to SFI, an overwinter cover crop only requires two species, but to achieve the aims of the action as well as greater farm, soil and environmental benefits, we should strive to include more.

“Ideally, you should have winter covers established in August, with moisture, for the best success. Also, the heavier the soil, the more diversity becomes key to the success.”

Of the seed mixes which Hutchinsons' recommends, Alice said although none of them contain cereals, they do feature at least eight different species of cover crop.

Soils services specialist, Jade Prince, reminded attendees that the three pillars of soil health are related to chemical, physical and biological properties. “Without those three in place, we're severely risking the functionality of a soil,” she said.

To expand, Jade explained the importance of in-depth soil analysis, in particular, understanding soil pH. “By measuring buffer pH we can identify the pH that a soil naturally wants to sit at, if a field was left alone without intervention. By knowing that figure, we can understand whether management practices are moving the pH away from where the soil wants to be.”

Soil organisms

“This is important because if that's the case, the soil pH may fluctuate, which can have a negative impact on soil organisms which we know like stability,” she explained.

Jade also questioned the role of organic matter. “What is it we're actually looking for? It all depends on soil texture – clay loves to hold onto organic matter whereas sand burns it. When we're looking at soil analysis, as well as organic matter we want to quantify active carbon – so how much organic matter is being

broken down by biological activity.

“By knowing this we can find out whether we have biological activity present in the soil which is a good indication of functionality, the key to cycling nutrients,” she explained.

To demonstrate the importance of comprehensive soil analysis, soils services specialist, Nick Chichester-Miles, took to a soil pit to explain how the calcium-to-magnesium ratio has an impact on soil structure. If incorrectly balanced, high calcium levels will push soil particles away whereas if magnesium is dominant it'll draw the particles together.

He explained that the easiest way to re-balance the high-magnesium soils found at Warboys is to apply gypsum (calcium sulphate), because sulphate binds to the magnesium so it becomes leachable and can move through the soil profile.

“Here we have heavy blocky clay; gypsum was applied after ploughing and we can see it's having an effect on the soil surface for more friability which allows better water infiltration and cover crop rooting. In the coming years we'll see those roots travel even further down the soil profile as the gypsum moves through.

“Not only does this help the cover crops to do their job beyond the first 6” (15cm), but with better soil structure we have an improved environment for soil biology,” he explained.



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According to technical manager Dick Neale, although cereal crop roots create friable and stable soils, direct drilling into the stubble will be tough and challenging.

crop or fallow, don't go for one or two species. Do the job properly rather than just taking the money – consider how long it'll be there, what weed problems might be exaggerated and whether it suits your cultivation strategy," he stressed.

Winter bird food

Continuing on the site tour, environmental services specialist, Hannah Joy, pointed out that the winter bird food SFI action (CAHL2) is now being used more frequently for whole-field areas, rather than just corners or poor performing zones. "Stacked with supplementary winter feeding (AHW) it's proving very financially appealing, it's just being careful how we manage this action to ensure you meet the aims."

Among the management challenges includes weed control – particularly

for two-year options – given herbicide options are very limited, she warned. Therefore maximising cultural control methods and ensuring optimum site selection are both paramount.

"Having had trials on this site for four years with some form of winter bird food or bumblebird mix, the weed pressure is now much higher than when we started. If you have areas where you have no plans to return to cropping in the foreseeable, these types of SFI options will be ok.

"But for more temporary scenarios, at a whole-field scale with an element of rotation, the longer that's down, the greater the weed burden will be. Traditionally, poorer areas were selected for these actions, but we're seeing a considerable increase in them being used rotationally," she concluded. ■

To address the wider implications of whole-field SFI options, technical manager Dick Neale discussed how different species behave below ground, and therefore the subsequent management challenges which can occur after. To begin, he highlighted the impact of a long-term legume fallow.

"Although in the first couple of years we see improved soil structure, beyond this it seems to have the opposite effect and we observe a level of slumping. This could be because we're flushing the soil with too much nitrogen which has skewed the soil biology."

Dick also raised the pros and cons of drilling into winter wheat stubble.

"Although we see very friable and stable soils which are held together by the cereal root systems, direct drilling into that will be tough and challenging. I'd imagine it'd be the same for grass-type cover crop species too.

"Because broadleaf plants don't hold soils together in the same way, we may want to use them in conjunction with a cereal, but we have to be able to farm the land too and question whether it can be done successfully."

Dick explained that problems arise due to a cereal crop's root mass which can behave like a 'springy mattress' – with the seed slot gradually relaxing and re-opening post-drilling. "A solution could be to roll a few days after drilling, to close the soil back up again.

"But really, when choosing a cover



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