

Strategic Cereal Farm results webinar (21 November 2023):

How to make cover crops work for your business

This document answers questions not addressed during the main presentation (due to time constraints).

David Miller (Strategic Farm South)

How about using SFI to assist with a full summer cover crop?

We are looking at SFI option NUM3 as an alternative to a spring break crop (beans). The questions we are trying to answer are: Can we keep it clean from grass weeds by early topping? Can we exit it into a wheat crop easily without causing long-term problems?

Brian Barker (Strategic Farm East – Suffolk)

Did the cover crop trials look to reduce nitrogen?

The trial was a simple assessment of the impact cover crops. Fertiliser was the same over all split fields. We didn't have the budget to add more treatments.

Why do you think the min-till treatment had a higher nitrogen loss than ploughing?

Min-till can be a distracting or confusing term, it is probably best to focus on shallow disturbance v maximum soil disturbance. You also need understand what was happening on the ground over the years. The crops established in the plough treatment were probably stronger that better scavenged mineralised and wasted nitrogen. From memory, the min-till crops had two wet autumns to contend with. Plants were less vigorous and less developed. So, the result probably reflects plant size rather than the system. The key is max disturbance was high nitrogen leaching, the shallow or direct was much less.

Was the reduced nitrate leaching in the winter barley linked its rooting volume or its rotational position?

We didn't have many barley crops to compare. However, this was an early drilled hybrid barley where early growth ran away. So, I think it was plant strength helping to scavenge nitrogen that would have otherwise gone through the drains. It also followed a well-yielded wheat crop (on reduced inputs).

Why did stubbles appear to have the highest nitrogen loss?

With no soil cover or active root systems to retain residual nitrogen, stubble is at greater risk of nitrate leaching. In this trial, it also reflected a legacy of poor establishment with a weaker plant stand.

Does the cover crop destruction method influence nitrogen loss in the following crop?

We tried crimping, rolling on frost, and glyphosate (applied late and early). We also had tricky springs to establish crops after the cover. However, nothing stood out from our observations. More research is required. Of course, it also depends on the cover crop species. We removed the radish, due to slug pressure in its tap roots. As this species is known for nitrogen absorption, you'd think it would release more nitrogen when it decayed.

David Aglen (Strategic Farm Scotland)

What was the optimum timing to spray off the cover crop with glyphosate?

We tested two timings – one before and one after drilling spring barley – with the former always better for spring barley establishment. However, later spraying may have helped with beneficials. As always, it depends on what you are trying to achieve.