

# Regenerative Barley: Stable yields, cut emissions, and offer co-benefits.

**SOIL CAPITAL GIVES MALTSTERS, BREWERS, AND THE OVERALL BEER STAKEHOLDERS A PRACTICAL WAY TO SECURE RESILIENT SUPPLY CHAINS AND LEAD ON SCOPE 3 EMISSIONS REDUCTION.**

## Why it Matters.

In barley supply chains, shifting to regenerative practices is becoming more and more of a hot topic. Here are the top three reasons why businesses are investing:



### SECURE SUPPLY

Regenerative practices improve soil health and water management, reducing the risk of yield loss from pests, disease, or climate stress.



### REDUCE EMISSIONS

Supporting farmers to adopt regenerative methods is one of the most direct levers to cut value-chain emissions.



### FARMER TRUST

Investing in farmer resilience builds loyalty, ensures long-term viability of grower networks, and safeguards reputation.

## The 4 Key Practice Changes for Regen Ag in Barley Farming.

The following practice changes done step by step are the key levers for malting barley businesses to support the transition to regenerative agriculture, securing supply resilience, and reducing Scope 3 emissions:

**1**

### REDUCE CULTIVATION INTENSITY

Farmers can enhance soil health by reducing tillage intensity and avoiding ploughing. Less cultivation is a beneficial first step in crop rotation.

**2**

### SEEDING OF MULTI-SPECIES COVER CROP AS EARLY AS POSSIBLE

Sowing cover crops by mid-August maximizes biomass, drives energy from photosynthesis into the soil, with nearly half the biomass as sequestered carbon.

**3**

### INCREASED COVER CROP DIVERSITY

Diversity is essential for resilience, as different root structures offer various ecosystem services. Legumes capture nitrogen, reducing reliance on synthetic nitrogen, great for barley systems.

**4**

### DIRECT DRILLING

Last step, farmers have to "earn the right" to direct drill barley. It can only be implemented when soils are healthy enough, which is otherwise needed to mineralise organic matter and add air.

## Top Challenges for Barley Growers.

Barley is a great entry point for regenerative agriculture, yet its rapid "Formula 1" growth requires high technical precision as every practice change can impact malting quality.

Focusing on agronomic reality and step-by-step guidance is essential to reliably maintain both quality specs and overall yields.



### UNPREDICTABLE NITROGEN RELEASE

Barley requires early nitrogen release. Late N availability during growth risks affecting quality.



### PROTEIN SPEC: QUALITY OF BARLEY

Quality is king. Grain must hit quality specs. Missing this quality spec risks significant deductions or outright rejection.



### REDUCED TILLAGE RISKS GOOD ESTABLISHMENT

Changing tillage can affect seedbed conditions, potentially reducing moisture or oxygen.



### VOLATILITY OF ORGANIC FERTILISATION

Organic manure with high available Nitrogen risk mistimed N release that can push grain N beyond malting specs.

**"We were plowing a decade ago and then we gradually reduced our cultivations."**

**Sam Done, Farmer, England**  
600ha total / 80ha of spring barley fields  
10 years in his Regen Ag transition

## Step by steps towards Regenerative Farming.

Each scenario represents a practical step farmers can take. Based on real farm primary data from France, Belgium, and the UK, these changes deliver measurable carbon reductions and removals. **Important note: agri-food businesses sourcing barley, accounting for removals is critical for to hit their 2030 goals.**

### SCENARIO 1 Reduced tillage

### SCENARIO 2 1-species cover crop, 2 months

### SCENARIO 3 4-species cover crop, +4 months

### SCENARIO 4 Organic manures used in rotation

### SCENARIO 5 4-species cover crop, including legume, +4 months

### SCENARIO 6 Organic manures used in malting barley fields

### SCENARIO 7 Direct drilling



**2.5X**  
more carbon captured



**1.6X**  
more carbon captured



**1.9X**  
more carbon captured

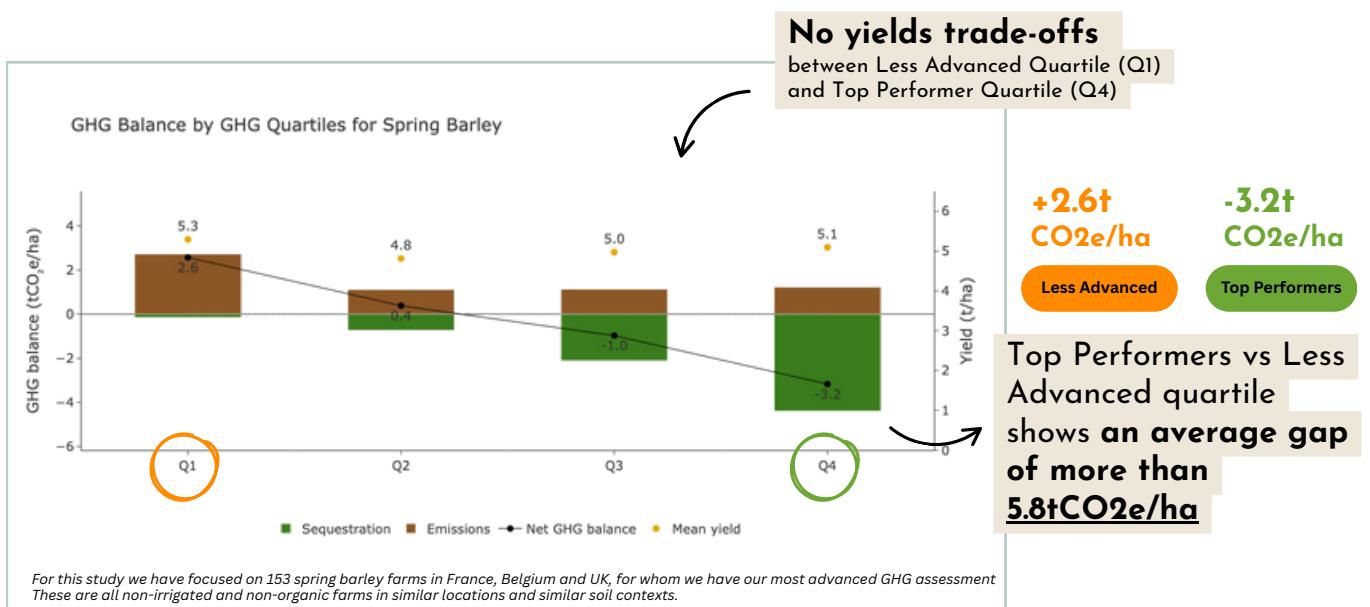
ACHIEVABLE

AMBITIOUS

VERY AMBITIOUS

## Real GHG Results from farmers in our program.

This graph, based on Soil Capital program farmers' data (grouped by quartile Q1-Q4), shows the impact you can expect. The results are clear: **regenerative practice change delivers significant carbon reductions without compromising yields.**

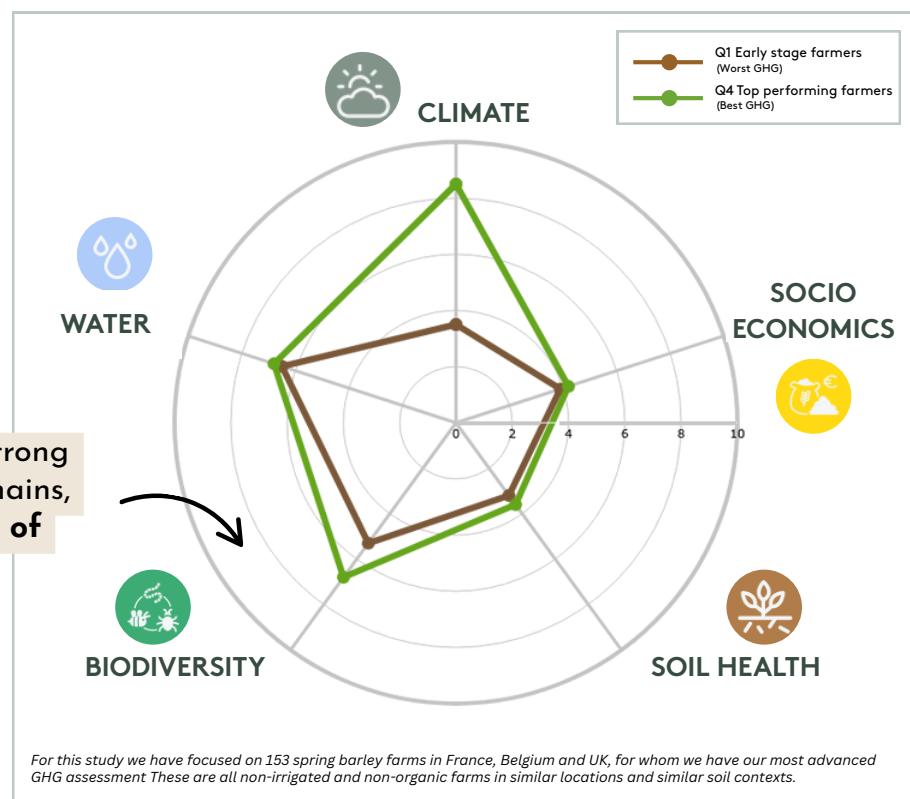


## Resilience and co-benefits of cutting emissions by 5.8t CO2e/ha...

Using the same method as above, this spider graph clearly shows the multi-dimensional impact of regenerative practices.

Carbon reduction driven by these practices generates co-benefits that lead to more resilient, environmentally sound, and economically viable farm systems.

Overall, we observe a strong resilience across all domains, especially in the areas of climate, water, and biodiversity.



**“Throughout the rotation, we're seeing that there's more resilience to poor years, whether that's dry or wet.”**

**Sam Done, Farmer, England**  
600ha total / 80ha of spring barley fields  
10 years in his Regen Ag transition

## Partnering With Soil Capital.

Wherever agri-food businesses are on their regenerative agriculture journey, Soil Capital provides the tools and expertise to design, launch, and scale programs that deliver real change on farms and measurable progress toward sustainability & scope 3 goals.

Common AgFood Challenges	SOIL CAPITAL's approach
<i>“Farmers won’t change unless they see a clear business case.”</i>	<b>Outcome-based financial incentives</b> that reward farmers for measurable progress at farm level.
<i>“We have a farmer program, but practice change is slow.”</i>	<b>Multi-year agronomic support</b> delivered by farmers to farmers. and accelerate new practice adoption.
<i>“We need credible Scope 3 data we can stand behind.”</i>	<b>Third-party certified carbon data</b> for both <b>reduction &amp; removals</b> , rooted in farm-level measurement.
<i>“Carbon is important, but we also need to show resilience beyond emissions.”</i>	<b>A holistic set of 31 indicators</b> covering water, biodiversity, soil fertility, farm economics, and climate.
<i>“It’s hard to align and co-invest across the value chain.”</i>	<b>Supplier engagement capabilities</b> that enable shared investment and coordinated action.
<i>“We only buy barley – why should we pay to support the other crops?”</i>	<b>A coalition of offtakers</b> shares the cost of supporting the full rotation, making the transition viable and grounded in farm reality.

