

## CASE STUDY

# Grain to Glass

## Setting the Standard for Industry-Wide Sustainability in Beer Production

### BETTER SOIL, BETTER BARLEY, BETTER BEER

Supply chain collaboration between four key players — Olander Farms, Root Shoot Malting, New Belgium Brewing and Downforce Technologies — resulted in a verified climate-smart product, connecting farm practices with processing and production.

### THE CHALLENGE: Competing Priorities



Brewers need **high-quality** malt barley with a **verifiable** low-carbon footprint.



Farmers must be **profitable** whilst building **resilience** in their production system.



Collecting farm-level climate **data is costly** and **difficult to scale**.

### THE SOLUTION: Supply Chain Collaboration

Each supply chain partner was already doing the work. What changed was the collaboration and the decision to share data across the chain to tell the full climate story.

**On-farm practices:** Olander Farms applied regenerative techniques including cover cropping, conservation tillage, and precision water management.

**High-quality inputs:** Root Shoot Malting remained focused on sourcing top-quality barley to produce premium craft malt.

**Data-driven reporting:** New Belgium Brewing integrated farm-level data — instead of industry averages — into their sustainability reporting.

**Verifiable outcomes:** Downforce Technologies enabled that connection with scalable, audit-ready insights into soil health and carbon impact.



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*We want to make sustainable, lower-emissions beer, and that means examining everything from grain to glass. Having verified data from our supply chain partners makes all the difference.”*

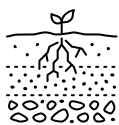
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Senior Director Environmental Programs  
New Belgium Brewing



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## A scalable model for GHG monitoring in beer — delivering audit-ready data and actionable insights for every supply chain partner



### Soil Health Improved

Regenerative practices built soil organic carbon, reduced emissions, and boosted resilience. Olander farms demonstrated 2.65 tCO<sub>2</sub>e removed per tonne of barley harvested.



### Malt Quality Maintained

Barley is crafted into premium malt with no compromise in brewing quality — proven by Root Shoot Malting's 15 Malt Cup medals over 7 years.



### Verified Scope 3 Reduction

Real on-farm data feeds into Scope 3 reporting — enabling lower-carbon beer supported by audit-ready evidence.



### Premium Potential

Verified sustainability drives demand — with consumers willing to pay up to \$0.98 more per six-pack for proof-backed beer.

## FUTURE PLANS

New Belgium Brewing is now exploring how to scale this model across its broader supplier base. While this project focused on a single farm, it demonstrated that verified climate-smart sourcing is both achievable and impactful when supply chain partners collaborate. The next phase will involve engaging additional growers and maltsters, expanding the reach of verifiable, low-carbon ingredients across New Belgium Brewing's operations.

## WHAT DID WE DO

Downforce Technologies used its US-patented, ISO-aligned methodology to track soil carbon trends over time — going as far back as 2017 — and assessed field-level input data to create a robust, verifiable dataset. The result showed that barley production at Olander Farms was not only low-emission, but in some cases carbon-negative, removing more CO<sub>2</sub> than it emitted. This level of insight enabled those climate benefits to be traced all the way through the supply chain — from field to malthouse to shelf.

Unlike conventional methods that rely on costly physical sampling, Downforce delivered high-resolution monitoring at a fraction of the cost — making climate-smart verification scalable, audit-ready, and commercially viable.



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