NouriSol

Harnessing Nature to Grow Crops

Algae Fertilisers
Transforming the way our food is produced

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Problem

Our food generates **>25% of the UK's carbon emissions**, with arable agriculture's greenhouse gas emissions primarily coming from nitrous oxide (N_2O) and carbon dioxide (CO_2) generated during fertilizer production.

Harvesting crops depletes soil nutrients, requiring fertiliser application for continued productivity.

Nitrogen fertilizers pose significant environmental challenges:

- Contributing **~3% of global greenhouse gas emissions** through production and application.
- Once applied, up to 50% does not reach the plants, instead leaching into ecosystems and causing environmental damage, including eutrophication of waterways.

Fertiliser production is dominated by **China, the USA, India and Russia,** and prices are also extremely volatile.

UK's net-zero regulation challenge farmers, potentially reducing crop yields and increasing food prices.

Alternatives (e.g. organic farming) result in **40% lower yield**, creating urgent demand for effective solutions.

Our Results

21% increase in crop yield compared to chemical fertilisers

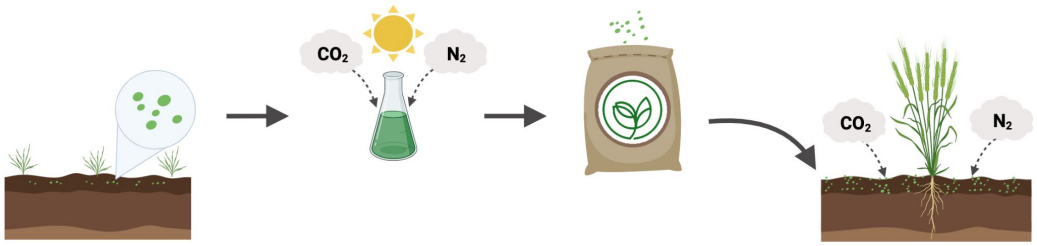
- Validated in field trials with UK farmers
- Package of macro- and micro-nutrients and phytohormones

Improved **soil health**

- Independently validated by Yara
- Boost soil organic carbon
- Increase microbial activity
- Acts as a cement to improve soil structure

NouriSol's Solution

NouriSol develops fertilisers that harness the power of microalgae already present in farmers' soils. A unique platform is used to select the most efficient algae strains, based on their ability to both fertilise plants and enhance soil health. These strains are then cultured and scaled up, using sunlight and atmospheric **CO_2** and **N_2** to grow.



- **CO_2** Continuous **CO_2** capture during production & once applied
- **Slow release** of nutrients
- 1x Only **1x application** required
- **Non GMO**, using native strains from farmers' soil
- **N_2** Continuous **N_2** capture during production & once applied
- Minimised nutrient loss into the environment
- Applied using **existing equipment**
- Reduced environmental pollution

Traction

TESCO

Given our results, TESCO has selected as their official partner, connecting us to their network of international farmers.

NouriSol has received multiple awards including Enterprise Fellowships from both the **Royal Society of Edinburgh** and the **Royal Academy of Engineering**, as well as grants from **Innovate UK SMART**, **Innovate UK Women in Innovation**, and **BBSRC**.

What's Next?

NouriSol is:

- **Eager to connect with farmers** as they scale-up production ready for the 2025 growing season.
- Currently fundraising £1.3M (£500k of which has already been secured from Innovate UK) to **scale up production** and **commercialise their first product**.

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