

Impact Ingredients by VAXA

Icelandic Ultra Spirulina
The path to net-zero



VAXA
impact nutrition



About VAXA



We at VAXA invented a patented growth environment where microalgae thrive, becoming a truly regenerative source of nutrition with global impact.

VAXA has a carbon reduction program, enabling customers who use our ingredients to significantly reduce their carbon footprint.

We call this, **Energy to Food (E2F)** technology, in which clean and renewable energy from one of the largest geothermal plants in Iceland, is converted into impact nutrition.

Our **E2F** technology is creating a new standard resulting in Icelandic Ultra Algae, a bioactive carbon negative ingredient with superior nutritional benefits.

We turn our waste into value.

The Icelandic Connection

Iceland is a global leader in generating clean geothermal energy.

Our technology platform is tailored to utilize the clean, natural outputs of a geothermal plant in Iceland, allowing us to grow microalgae indoors, completely independent of weather conditions.

Our Carbon Impact Program turns Icelandic soil into a carbon sink enabling significant carbon reduction while regenerating the soil.

We're proud of our success in transforming Iceland into the perfect environment where microalgae thrive and we can capture significant amounts of CO₂.

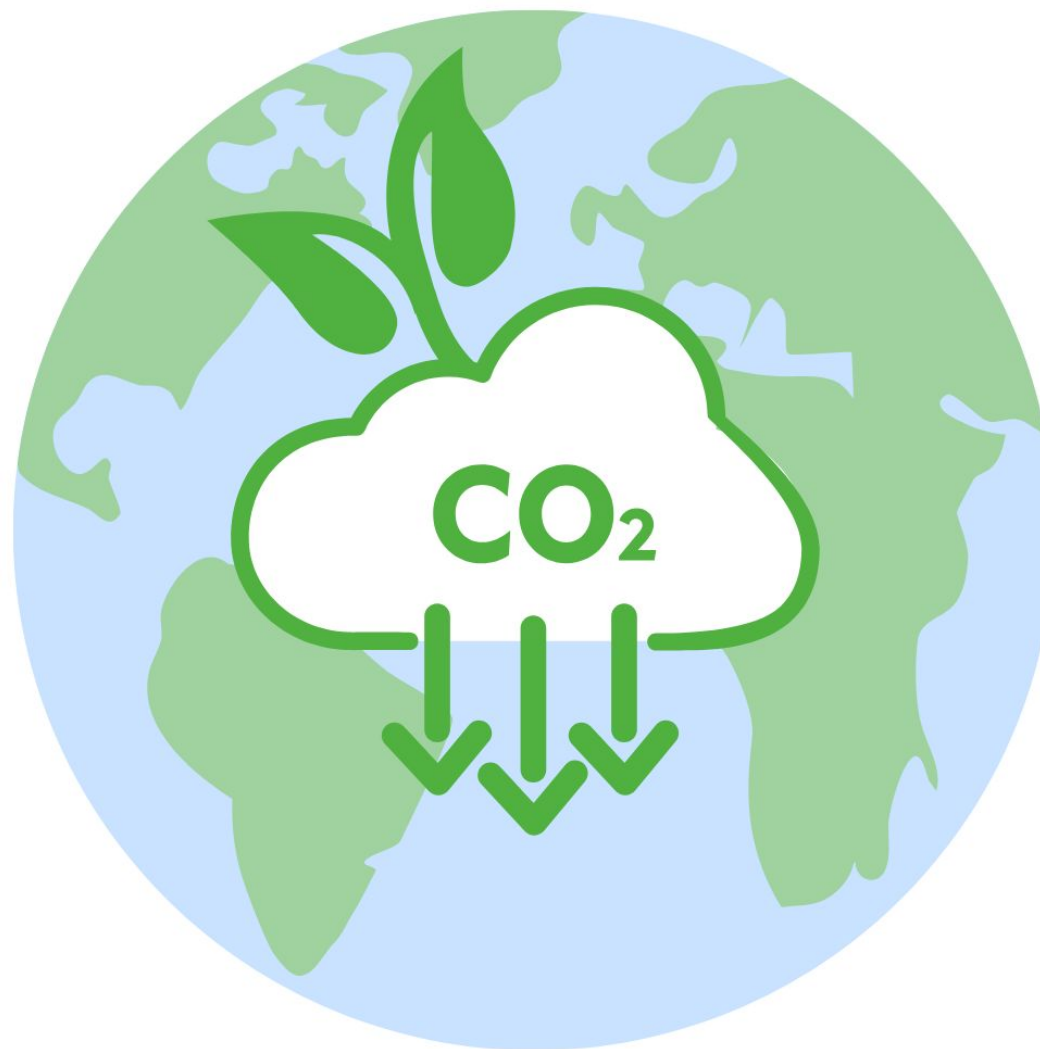


Value Proposition

At VAXA Technologies, we provide a portfolio of groundbreaking ingredients, powered by our patented Energy-to-Food (E2F) technology.

Each ingredient not only elevates food and beverage products with superior nutrition and versatility but also offers a transformative environmental impact.

By integrating our **Icelandic Ultra Spirulina** into their value chain, companies can deliver exceptional quality to their customers while achieving significant Scope 3 carbon reductions, enhancing sustainability credentials, and creating a lasting positive impact on the planet



World's First Carbon Negative Ingredient



Our production process uses less than 1% of the land and water required for outdoor algae cultivation. By harnessing waste heat, 100% green energy, pristine water, and natural CO₂ emissions, we've created the world's first fully regenerative, carbon-negative system.

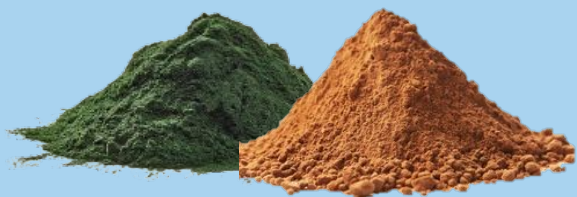
VAXA's KPMG certified negative carbon LCA enables significant emission reductions when integrating our ingredients into your value chain.



VAXA Product	Carbon Dioxide Removal *
Blue Essence	0.2 t CO ₂ /liter
IUS FE100	20 t CO ₂ / kg
Icelandic Ultra Spirulina (IUS)	20 t CO ₂ /kg

* LCA Based

IUS™ PRODUCT PORTFOLIO



Green/Brown IUS™ powder

- Non soluble
- High protein (>65% DW)
- B12 claim Minimal Inclusion: i.e 0.03g / serving



Blue IUS™ powder

- Water soluble
- High protein (>65% DW)
- B12 claim Minimal Inclusion: 0.05gr / serving



Flavor Enhancer Umami, Glutamic Acid (FE100)

- Water soluble
- High protein (>50% DW)
- Rich in Glutamic acid (Umami taste)
- B12 claim Minimal Inclusion: 0.05gr / serving



IUS™ Blue Essence

- Water soluble
- High protein (>65% DW)
- B12 claim Minimal Inclusion: 0.7ml / serving



Organic



Clean Label



Vegan



Non-GMO



FDA approved



EFSA approved



3rd party tested
verified for purity,
potency, freshness



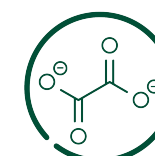
ISO22000
certified



Major
Allergen-free



Gluten Free



Oxalate-free



Pesticide-free



Kosher



Halal



Non-habit
forming

IUS™ - a claim enabling ingredient

Icelandic Ultra Spirulina's advanced growth technology delivers unmatched nutrition and user experience.

Icelandic Ultra Spirulina (IUS)

- ✓ Consistent composition
- ✓ The only Spirulina with active natural Vitamin B12: enables health claims
- ✓ 56 vitamins and minerals
- ✓ Bio-secured production system
- ✓ Pristine Icelandic water used in growing media
- ✓ No taste & smell
- ✓ No pathogens, oxalates, or contaminants
- ✓ Optimum, controlled growing & harvesting cycle
- ✓ Offsets GHGE in substantial numbers

IUS™ enables claims of natural active B12 and iron:

- B12 supports immunity, energy metabolism, and red blood cell formation.
- Iron promotes cognitive and immune function while reducing fatigue.

IUS™ Blue Essence

IUS™ Blue Essence is a vibrant liquid designed to elevate food and beverage creations. This striking blue essence adds a visual wow-factor to drinks, smoothies, or dairy products, making it a unique and eye-catching ingredient.

Crafted for seamless integration, it ensures consistent performance and reliability in every application.

B12 claim minimal Inclusion rate: 0.7g / serving

56 vitamins and minerals

Key Characteristics:

- No smell or taste
- Water soluble
- High protein (>65% DW)

Intended Use:

IUS™ Blue Essence is the perfect addition to food and beverage innovations, delivering both striking aesthetics and exceptional functionality. Ideal as a natural coloring agent or a nutritional boost, it enhances smoothies, beverages, dairy products, and more.



Green/Brown IUS™ powder



This innovative ingredient enables nutritional claims while seamlessly enhancing the nutritional profile of food applications.

B12 claim minimal Inclusion rate: 0.03g / serving

56 vitamins and minerals

Key Characteristics:

- No smell or taste
- Water insoluble
- High protein (>65% DW)

Intended Use:

Food ingredient, dietary supplement

Blue IUS™ Powder



Icelandic Ultra Spirulina Blue powder delivers superior nutritional benefits but also imparts a stunning, natural blue color, making it perfect for smoothies, beverages, dairy products, and other creative food applications.

B12 claim minimal Inclusion rate: 0.05g / serving

56 vitamins and minerals

Key Characteristics:

- No smell or taste
- Water soluble
- High protein (>65% DW)

Intended Use:

Perfect for use in beverages, smoothies, dairy products, food, dietary supplements, and as a vibrant, nutrient-rich ingredient in custom-formulated products.

Flavor Enhancer Umami , Glutamic Acid (FE100)



White IUS™ Powder is a natural flavor enhancer. Packed with protein, glutamic acid, and a signature umami profile, White IUS™ is the ultimate solution for a healthy, natural alternative to ingredients like monosodium glutamate.

56 vitamins and minerals

Key Characteristics:

- Water soluble
- High protein (>50% DW)
- Rich in Glutamic acid (Umami taste)

Intended Use:

Helps reduce sodium intake while maintaining a satisfying savory taste, making it ideal for enhancing the flavor of a wide range of food applications

Biochar



Algal Biochar - CO₂ Biofixation

Growing algal biomass is a distinctive way to sequester atmospheric carbon dioxide. The high nutrient content of algae makes it a suitable feedstock for biochar production.

In scope carbon emissions mitigation ingredient

The microalgae cultivated at the VAXA Facility in Iceland offer unique carbon removal values associated with soil organic carbon sequestration resulting from biostimulant application on degraded lands

Carbon Dioxide Removals - 518 t CO₂/kg

* <https://www.sciencedirect.com/getaccess/pii/S0960852417313147/purchase>

CASE STUDY

The Oterra logo is displayed in white lowercase letters on a solid red rectangular background.

Long term offtake agreement with the largest natural food colour provider world wide

- VAXA delivers a turnkey solution through a fully integrated vertical process.
- Enables Oterra to secure a long-term delivery in place.
- "This partnership underscores our dedication to delivering a cutting-edge natural colour solution to the global market and our commitment to a sustainable and carbon-neutral future."

Sonntag, CEO Oterra

CASE STUDY



Braud & Co. launched IUS(™) Bread

- 1g of IUS is added to 950g of dough (750 g after baking)
 - 50% DV of Active Vitamin B12 in two slices of bread
 - First carbon neutral bread
 - Icelandic Ultra Spirulina is a storytelling ingredient that generates new traffic into the bakery
 - Supports high engagement & increased exposure on social media (especially with vegetarians, who need supplemental B12)
 - A culinary delight worthy of a premium price
- **The Result:**
 - IUS Spirulina Bread sales increased tenfold in the first year
 - It's now the chain's #3 seller

CASE STUDY



A leading food company wants net zero milk thru transition to IUS-enriched feed, embedding significant CO₂ removals at small inclusion rates.

Approach aligns with GHG Protocol – Goods & Services, and strengthens net - zero positioning with auditable results.

Before

- Carbon intensity of milk:
- 3.7 kg CO₂e/l
- Milk productivity:
- 30 l/cow/d2
- **111 kg CO₂e/ Cow/ Day**

After

Adding IUS ingredient to cow's feed reduces overall emissions.

- **1 kg IUS = - 59.5 tCO₂e**
- **2g/day IUS = -119.66 kg CO₂e**
- Improved milk quality.
- Enhanced animal welfare



Net-Zero Impact

LCA based carbon removals leads to net zero milk production

Beyond Carbon

Support malnourished people across the globe with our high-quality ACTION offsets.



Improve degraded land by including a VAXA product in your value chain through our in-scope carbon mitigation program.



Verified by expert 3rd party verification bodies (VVB). Supports the UN SDGs.



Thank You!

