

nutriBarrier

The sustainable farming solution



Algal Blooms and Eutrophication

The impact of algal blooms as a result of human activity is a problem on a global scale, affecting many waterways around the world.

Algal blooms destabilize entire ecosystems, decimating aquatic life, ruining water quality for human use, and sicken livestock.

Algal blooms are just a symptom, the original problem is harmful fertilisation practices that allow water runoff to enter waterways.



Current Strategies



How Algal Blooms are Currently Handled

There is no efficient way to clean large bodies of water from algal blooms. The government's strategy is to monitor water and issue health warnings when necessary.



Common Fertilisation Practices

Modern fertilization practice is heavily related to algal blooms. Fertiliser pellets and liquid manure can be washed away into a nearby waterway before it is absorbed.

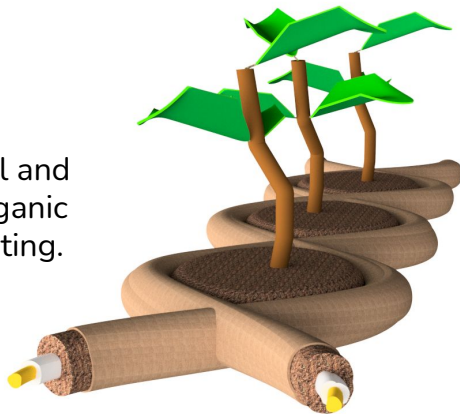
Current Methods for Stopping Algal Blooms

- Covering water tanks so algae does not form inside.
- Using screening processes to filter plant debris and fertiliser from water in the farms.

Even with these methods, algal blooms are still common occurrences.

What is nutriBarrier?

Fertiliser,
water-absorbing gel and
mulch layered in organic
semipermeable coating.



Stop Runoff

Right amount, right time.
Excess nutrients stopped
from entering waterways.

How does it work?

- **Retains Water:** nutriBarrier blocks runoff while retaining excess water at each plant. Mulch surrounds individual plants and expands in response to water.
- **Smart Fertilising:** fertiliser is released passively from deep within nutriBarrier, so there's no need to plan when to fertilise or how much.

Find out more about nutriBarrier's sustainability [here](#)

Biomimicry Inspired Design Process



Water Absorption

Myxini excrete a compound that rapidly absorbs large volumes of water, just like nutriBarrier responds to rain.



Frog Egg Protection

Frogs create a protective mound of slimy bubbles to protect their eggs, just like nutriBarrier holds water and guards against runoff.



Oak Tree Seedlings

Oak seeds inside acorns eventually germinate into seedlings, just like nutriBarrier slowly releases fertiliser.



“Nature Recycles”

nutriBarrier uses an organic waste product for its water-absorbing gel, just like nature's circular processes

Why nutriBarrier?



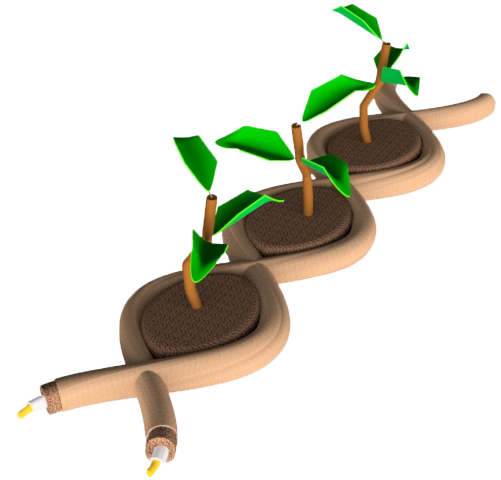
Water Retention

Water less often



Money Saver

Reduce water and
fertiliser costs



Smart Fertilising

Slow release of fertiliser



Adaptable

Shape works for different
crop layouts and plants

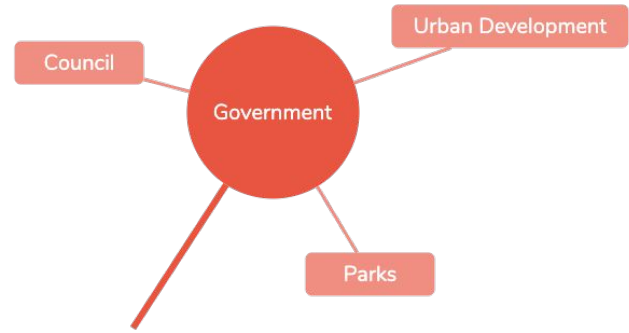
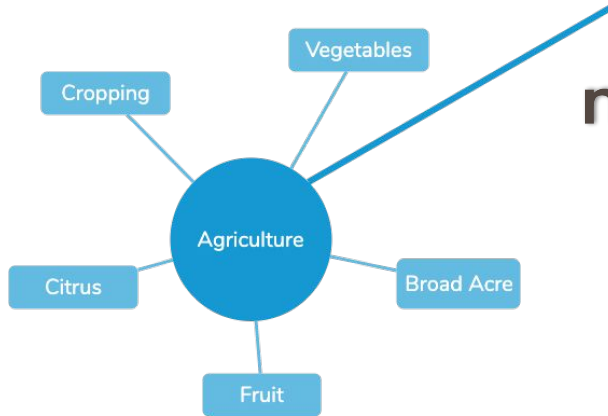


Manufacturing

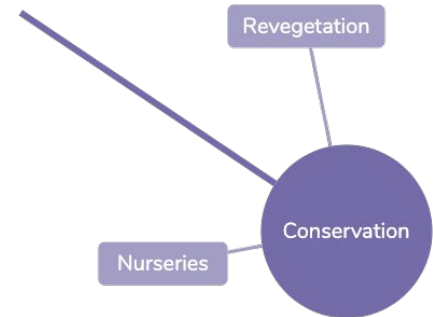
Scalable design from
affordable materials

Customers

nutriBarrier provides value to a diverse range of customers. Agriculturalists form our main customer segment, with their priorities around saving water and chemicals for various produce. Related needs in conservation and government make these our two minor segments.



nutriBarrier



The Team

We are a diverse, interdisciplinary team with a passion for sustainability and innovation



Luke Heffernan

Leadership, project management & business development



Sanchita Anand

Biotechnology, sustainability & process engineering



Martin Gallo

Biomedicine, electronics & design engineering



Sophie Heath

Human-centred design & social enterprise



Matthew King

Systems engineering, mathematics & CAD



Hazel Huang

Computer science, marketing & media management

Entrepreneurial Journey and Product Design

Media Presence

nutriBarrier website and pages on Facebook, Instagram, LinkedIn, Twitter to spread the word.



Prototyping Program

Test the ability of gel to (re)absorb water. Trial various materials, shapes and plant types.



Customer Discovery

Customer segments in agriculture, conservation and government.



Industry Partnerships

Agreement with provider of water-absorbing gel paves the way to production of nutriBarrier.



Seed Funding

Capital to cover business expenses has been negotiated with Adept.



What can I do?

Visit our website nutribarrier.com or email us at hello@nutribarrier.com

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Share us and tell someone about nutriBarrier!



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