



BIOBASED INGREDIENTS
FOR **FOOD**

VITAFYREN™

Innovative solutions for Natural food



GLOBAL CHALLENGES

As pressure on Resources continues to increase, our planet's biocapacity is gradually shrinking. Because of the ever increasing gap between demand and supply of natural resources, we would need the equivalent of 1.7 Earths to meet our current needs.



Today, it takes

1.7 Earths

to meet our resource needs



The global population keeps growing and should reach **11.2 billion people before the end of the century.**

One of the consequences will be an increase in demand for food and more **specifically food of animal origin.**

Consumers all over the globe are becoming more aware about the ingredients in their food products and have actively started scrutinizing product labels.

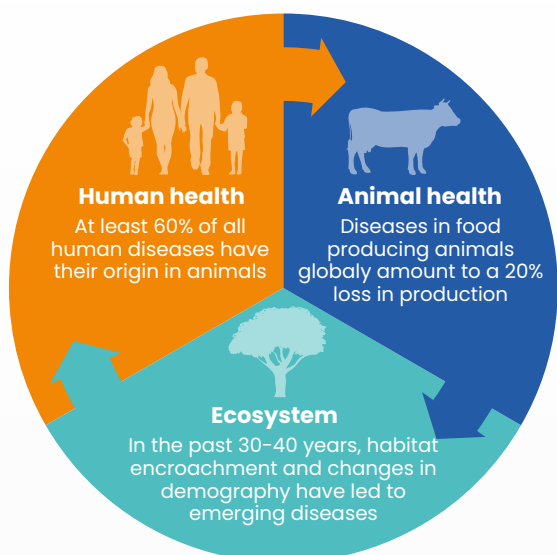
11.2

billion people before the **end of the century**



6 out of 10 consumers

feel that **"clean claims"** on ingredient lists align with greater healthfulness.



Increasing awareness of consumers about health benefits of natural and organic products.

People are ready to pay more for products that demonstrate socially and environmentally responsible practices.

Clean labeling results of the booming interest in consumers for allergen free, minimally processed and natural food ingredients.

AFYREN'S COMMITMENTS

AFYREN'S 100% SEGREGATED* BIOBASED ACIDS REDUCE CARBON FOOTPRINT BY 5 COMPARED TO FOSSIL-BASED ACIDS:**



- Natural and innovative fermentation process
- Local, renewable and sustainable resources
- Fully circular model
- Renewable by-products as feedstock
- No direct competition with human food

By using **AFYREN'S** products, you

CONTRIBUTE TO DE-FOSSILIZATION OF THE INDUSTRY

... All while preserving natural resources and developing regional economy

- Local, safe and sustainable product procurement
- Low water consumption
- No additional land use
- No deforestation

What do you get?

THE POSSIBILITY TO DEVELOP AND PROMOTE INNOVATIVE AND SUSTAINABLE PRODUCTS WITH ADDED VALUE

REDUCED CARBON INTENSITY

- GHG emissions reduction (scope 3)
- Improved product carbon footprint (PCF)

POSITIVE BRAND IMAGE

- Improved scores for environmental certifications
- Contribute to your CSR strategy

ANSWERING THE MARKET'S DEMANDS

- 100% biobased and segregated*
- Support your Clean label process

EFFICIENT CHAIN OF CUSTODY

- Traceable and transparent
- Limited dependency on crude oil market

Be part of a sustainable future

*Norm for biobased products

**Based on the Life cycle assessment conducted by SPHERA 2018-2019, updated 2020 following ISO 14040/14044

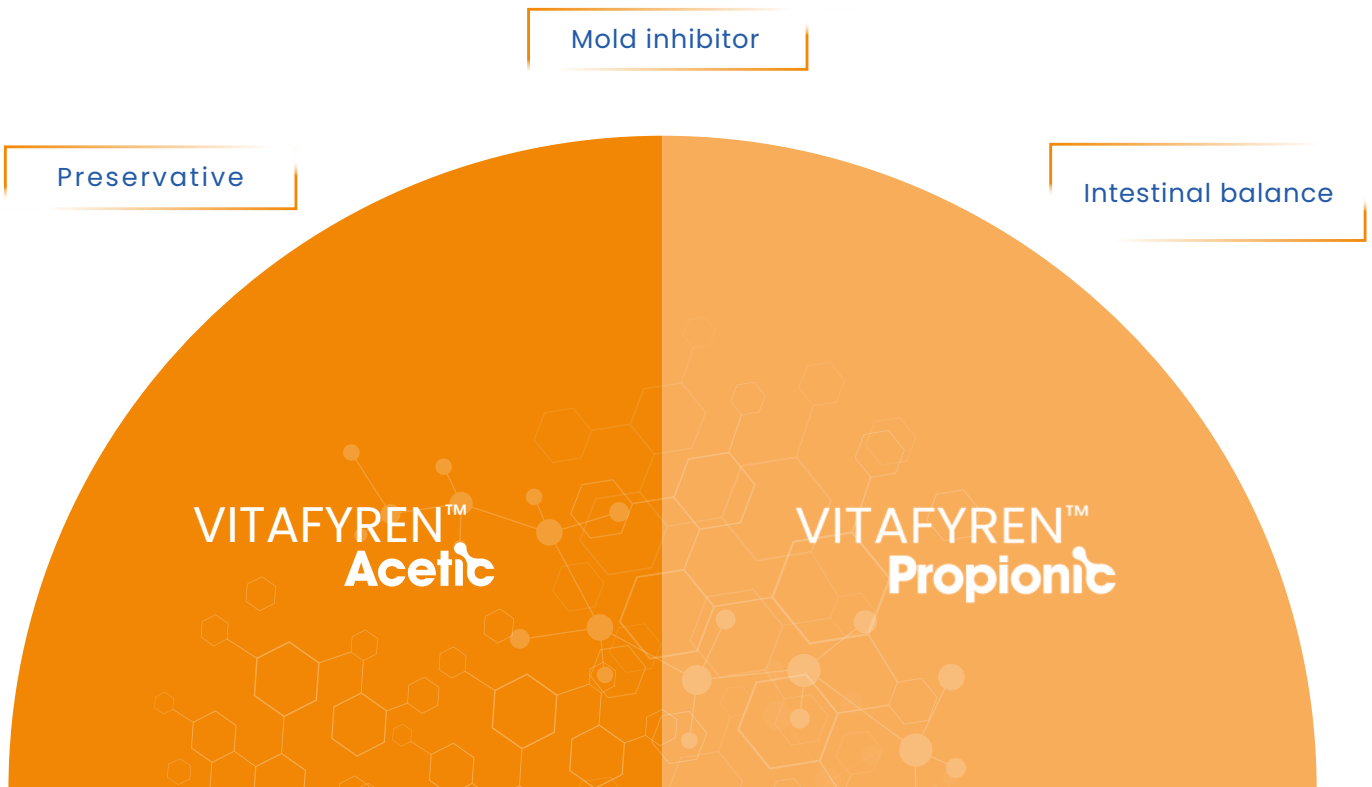


VITAFYREN™'S 100% BIOBASED

Unique high quality biobased acids with properties of mold inhibitor and preservative for food ingredients.

All **VITAFYREN™ acids** are produced locally in Europe via a lean process, based on renewable natural raw materials and benefit from a high level of purity.

With VITAFYREN™, AFYREN offers **a relevant range of 2 biobased acids**.



FOOD SAFETY

SOLVENT RESIDUES

Compliance to good practices of 2009/32/CE.

PESTICIDE RESIDUES

Absence of pesticide residues as listed in Annex II of (CE) No 396/2005 regulation controlled.

FOOD ALLERGENS

Raw materials and products used in AFYREN's process neither contain nor come into contact with peanuts, soybeans, milk, eggs, fish, shellfish, tree nuts and/or wheat or gluten. AFYREN has no reason to expect that any of these compounds would be present in AFYREN products.



The factory will produce acetic acid according to the FSSC 22000 Standard, guaranteeing food safety.



KOSHER*

AFYREN will be Kosher certified for the future plant and guarantees that acetic acid contains no ingredients of concern.



HALAL*

AFYREN will be Halal certified for the future plant and guarantees that acetic acid contains no ingredients of concern.

*Certification will be implemented for the manufacturing site



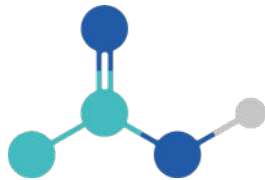
C2

Pickled vegetables,
salt & vinegar type chips

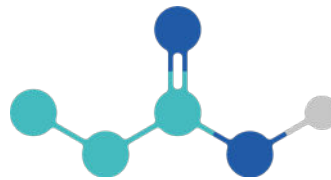


C3

Bakery products
(bread, doughs...)



VITAFYREN™
Acetic



VITAFYREN™
Propionic



DID YOU KNOW ?

- Acetic acid is the main component of vinegar and gives, for instance, the characteristic sour taste to salt and vinegar potato chips. It also plays an important role in the conservation of vegetables.
- Propionic acid acts as a natural antimicrobial and mold inhibitor that allows for an extended shelf life of bakery products. As such it contributes to the reduction of waste in retail and grocery stores.



Credit: Benjamin Davies

Nature is the future.

Now, more than ever it is time to move forward together towards a sustainable, competitive, innovative industry, combining ecology and economy.

With its biomimetic process and its of range of seven 100% biobased acids, AFYREN is revolutionizing the world of chemistry, opening up a range of possibilities for innovation, new products and carbon footprint reduction.

JOIN THE AFYREN INITIATIVE AND SEIZE NEW OPPORTUNITIES FOR COMPETITIVENESS.



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