



# ALGA&ZYME FACTORY S.R.L.



## INCREASE OF YIELDS AND SUSTAINABILITY OF BIOGAS PRODUCTION

*A&Z IS A PARTNER FOR DEVELOPING GOOD PRACTICES IN THE AGRO-ENERGY NETWORK*

Acceleration of BIOGAS production



Use as MATRIX for biodigesters

Phytodepuration of SLUDGE



SPREADING of Manure/Slurry in fields must respect certain limits according to the EU NITRATES DIRECTIVE (91/676/EC)

Phytodepuration



*ISOLATION AND CULTIVATION OF MICROALGAE FOR THE ABATEMENT OF THE NITROGEN LOAD*

**PHYTODEPURATION OF ZOOTECNICAL MANURE/SLURRY**

## VALORIZATION OF LIGNO-CELLULOSIC BIOMASS

*ENZYMES TO OBTAIN SUGARS FROM BIOMASS, A GREEN, ALTERNATIVE PRODUCTION*

From fermenter...



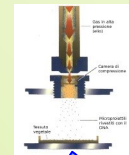
...to "biofermenter"!



3. Purification of enzymes



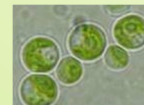
1. Production of transformed tobacco plants



2. Cultivation in a controlled environment (Biosafety)



**Proprietary processes**



Lipids

Carotenoids

Chlorophylls

Proteins

Polysaccharides

Ingredients for nutraceutical industry

Products for organic agriculture

Applications for biofuel development

Dietary supplement for animal feed

*MICROALGAE AS SOURCE OF HIGH-VALUE MOLECULES FOR DIFFERENT SECTORS*

**DIVERSE USES OF MICROALGAL BIOMASS**



## Alga&Zyme Factory S.r.l.

Uno spin off di



UNIVERSITÀ DEGLI STUDI DI FERRARA  
- EX LABORE FRUCTUS -

# Alga&Zyme Factory S.r.l.



Alga&Zyme Factory S.r.l. è uno **spin off** costituito nel 2014 da ricercatori delle Università di Ferrara e di Pavia con la partecipazione di esperti di mercato e finanza. La Società è partecipata dall'Università degli Studi di Ferrara.

Alga&Zyme Factory si occupa di attività di ricerca e sviluppo mirate ad elaborare soluzioni biotecnologiche innovative per impianti e processi che migliorino la sostenibilità ambientale ed economica dei settori **agro-industriale, agro-energetico, cosmeceutico e nutraceutico**. La Società si propone come **partner strategico** per le aziende che operano in tali settori.

Alga&Zyme Factory applica biotecnologie vegetali basate su **microalghe** ed **enzimi cellulolitici** per elaborare prodotti *bio-based* e protocolli per il trattamento e la valorizzazione di reflui. Esempi di applicazioni di prodotti e tecnologie Alga&Zyme:

- depurazione e valorizzazione di reflui animali e di fanghi di digestione anaerobica
- valorizzazione di biomasse ligno-cellulosiche per la biodigestione anaerobica
- sviluppo di ingredienti per l'industria cosme-nutraceutica
- sviluppo di integratori per la mangimistica
- sviluppo di ingredienti per l'agricoltura biologica
- servizi dedicati alla produzione di biocombustibili (biodiesel, bioetanolo)



*Alga&Zyme Factory S.r.l. is a **spin off Company** founded in 2014 by scientists of the Universities of Ferrara and Pavia and by business experts. The University of Ferrara participates in the Company as an Institutional Shareholder.*

*The mission of Alga&Zyme Factory is R&D of biotechnological solutions for plants and processes that improve the environmental and economic sustainability of **agro-industry, agro-energy, cosmeceutic and nutraceutic** sectors. The Company aims at becoming a **strategic partner** for enterprises operating in such sectors.*

*Alga&Zyme Factory applies plant biotechnologies based on **microalgae** and **cellulosolytic enzymes** to elaborate bio-based products and protocols for waste treatment and valorization. Examples of applications of Alga&Zyme products and technologies:*

- *depuration and valorization of manure and anaerobic digestion sludge*
- *valorization of ligno-cellulosic biomass for anaerobic biodigestion*
- *development of ingredients for the cosme / nutraceutic industry*
- *development of dietary supplements for animal feed*
- *development of ingredients for organic agriculture*
- *biofuel-oriented services (biodiesel, bioethanol)*



## **Alga&Zyme Factory S.r.l.**

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