ENTOGREEN

SUSTAINABLE FOOD BIOTECHNOLOGY

Company Presentation

FEEDING WORLD POPULATION

An increasing challenge

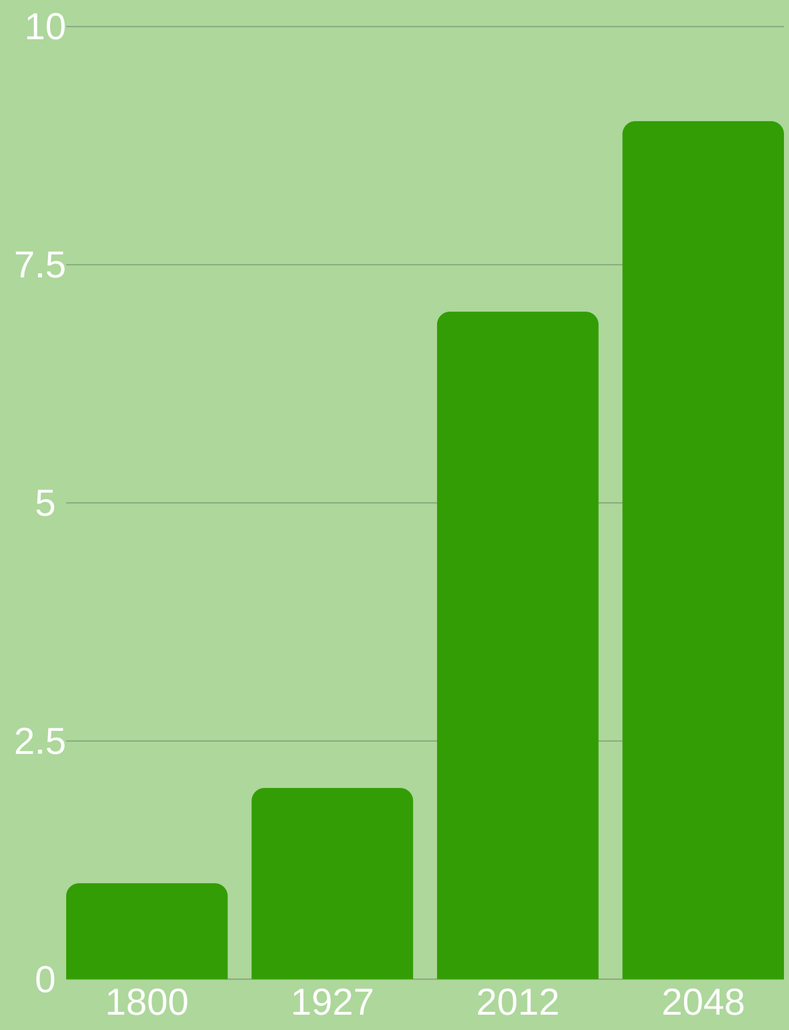
The world's population is estimated at 9 billion in 2048. It was less than 2 bilion a century ago.

The pressure on resources is increasing every day.

increasing food demand is leading to deforestation and intensive land use, which results in desertification, soil degradation and climate changes.

Mineral and chemical fertilizers aren’t sustainable options contributing to soil and water contamination.

The increasing pressure in the demand for nutritional ingredients, mainly proteins, implies innovative and sustainable solutions because the Planet does not have enough resources to meet animal and human nutritional needs with the traditional solutions.



WORLD POPULATION IN BILIONS

700 MILLION TONS

AGRICULTURAL WASTES CO-AND BY-PRODUCTS (AWCB) PRODUCED IN THE EU COUNTRIES EACH YEAR

Generation of AWCB during the production, processing and consumption of agricultural commodities is unavoidable. Either referring to non-edible parts of each commodity (e.g. straws, pruning, manure, bones etc.) or to edible parts and quantities that are removed or discarded so as to reassure quality and health appropriateness of the final product/food (e.g. peels, rotten fruits and vegetables, spoiled meat and milk), AWCB are estimated to more than 700 million tons per year in Europe (Agrocycle Project - 2016).

INSECTS

A sustainable solution

The physicochemical characteristics of the various AWCB denote that there is immense potential for their reuse/recycle/valorisation through various different processes..

The use of insects is one of the most sustainable solutions to meet both challenges of harnessing food waste and creating alternative nutritional solutions.

Recognizing this potential the European Commission recently changed legislation to permit the use of novel protein sources, such as insect meal in animal feed.

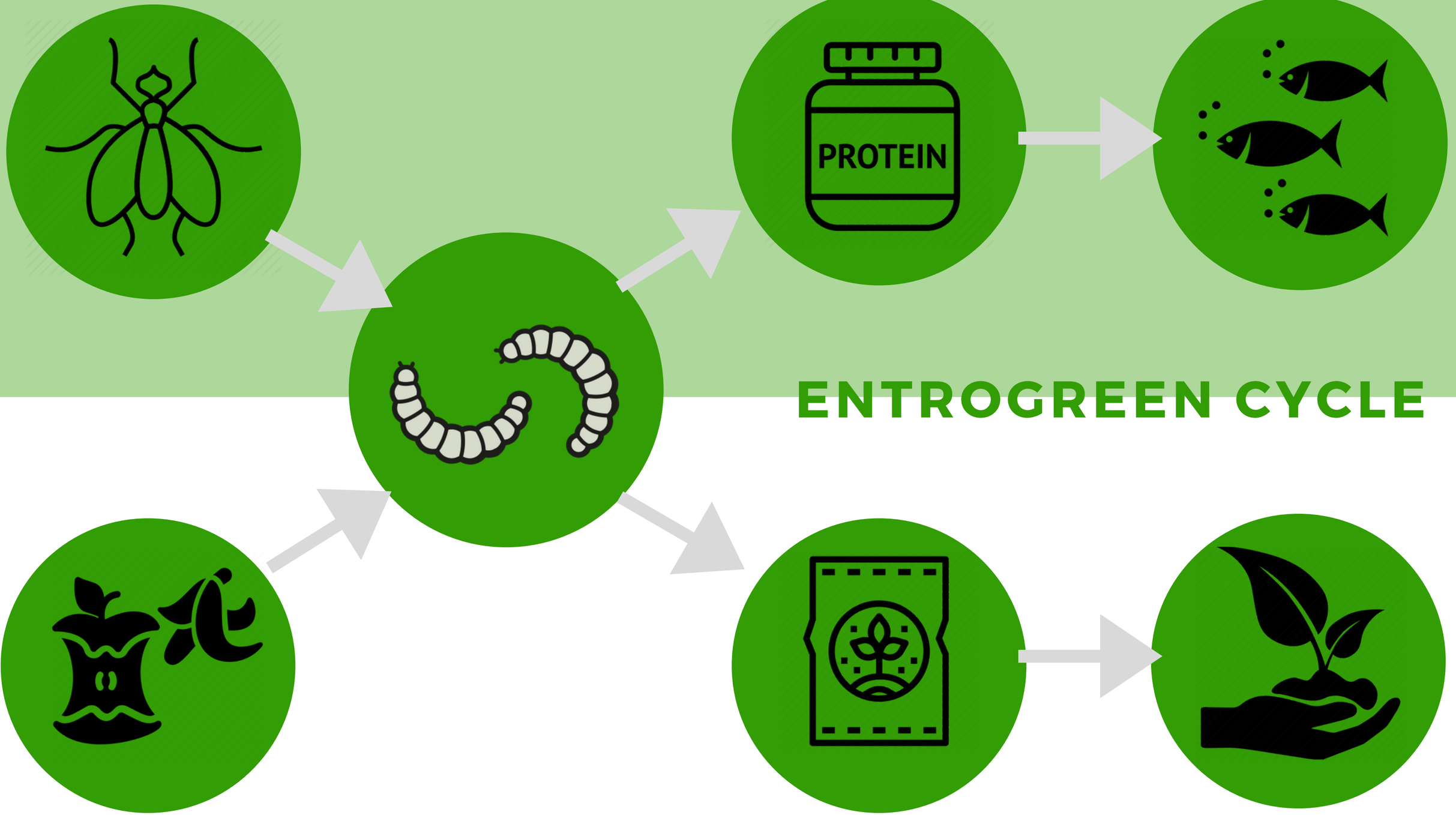
ABOUT US

At ENTOGREEN we are experts on developing biotechnological solutions for the production of animal protein and organic fertilizer through the reuse and valorization of wastes, co- and by-products from agrifood industry.

Our company was born in 2014 and our technology is the result of a long R&D process started in 2012.

We specialize in the production and use of the Black Soldier Fly, achieving a highly efficient and productive biodigestion technology.

In this process we have successfully passed through the laboratory and pre-industrial phases that have allowed us to get to the point where we can apply our technology at the industrial level, reusing and valuing hundreds of tons of organic waste per month, producing several tons of organic fertilizer, protein. and insect oil.


PROTEIN
ENTROGREEN CYCLE

MILESTONES

2012

Founder Daniel Murta, PhD in Veterinary, began his research on insects and their use in the recovery of organic waste.

2014

Ingredient Odyssey, company that owns Entogreen brand is created.
The research takes place at laboratory level.

2016

The Entogreen pre-industrial unit is set up and commissioned, in collaboration with the National Institute for Veterinary Research (INIAV). In this unit Entogreen is capable of testing technology at ton level.

2018

Entogreen validates and sees its technology recognized internationally, The company participates in the design of the Good Practice Manual for Insect Production from the Government of Portugal and begins negotiations with investors to build its first factory..

2020

Entogreen's first industrial plant will start work with a digestion capacity of 3,000 tonnes of waste per month and an estimated production of 2,600 tonnes of protein, 500 tonnes of oil and 9000 tonnes of organic fertilizer per year.

DISTINCTIONS

PRÉMIO
EMPREENDEDORISMO
E INOVAÇÃO
CRÉDITO AGRÍCOLA

AGRI Innovation summit 2017

INvertebrateIT

Over the years, the excellence and innovation of Entogreen's work has been recognized, not only through the approval of national and international projects, but also through the awarding of several awards.

Recently the company received 4 awards that should be noted:
- The Entrepreneurship and Innovation Award of Banco Crédito Agrícola;
- The Born from Knowledge Award from the Portuguese National Agency of Innovation;
- The Agri-Innovation Summit Award;
- Also the European Union INvertebrateIT Project Award, recognizing Entogreen as one of the three most promising startups in the sustainable food field.

BUSINESS AREAS

Production

Entogreen is dedicated to the installation and management of its first factory, located in Portugal, in the Ribatejo region (the most important agro-industrial zone in the country), which production will start in 2020.
The company intends in the future, either in its own way. , or in partnership, to install more factories in other countries.

Consulting and Training

In addition to Production, Entogreen is dedicated to supporting insect-based sustainable food projects, either through R&D and Industrial consulting, or through human resource training at the company's Pilot Unit in Portugal.

FOUNDERS

DANIEL MURTA

PhD in Veterinary
Researcher at CIISA
(University of Lisbon)
Lecturer at Lusofona
University

RUI NUNES

BsC Industrial Chemistry
MBA
(Coimbra University)

R&D PARTNERS

INIAV

National Institute of Agricultural and Veterinary Research

CIIMAR

Interdisciplinary Center for Marine and Environmental Research

ISA - UL

University of Lisbon - Institute of Agronomy

ENTOGREEN

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