



# Nutri2Cycle

Transition towards a more carbon and nutrient efficient agriculture in Europe



*Algae grown on liquid agro-residues  
as a new source of proteins*



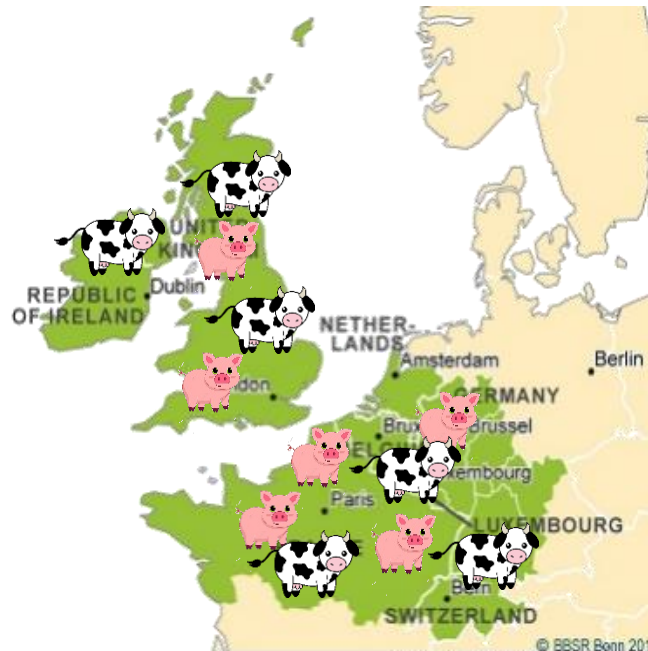
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 773682.



## Agro-residues as a source of nutrients



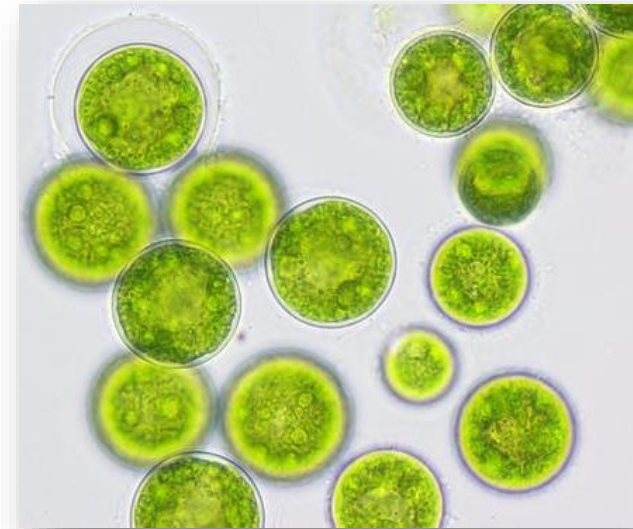
**30 million tonnes of  
soy meal imported  
per year**





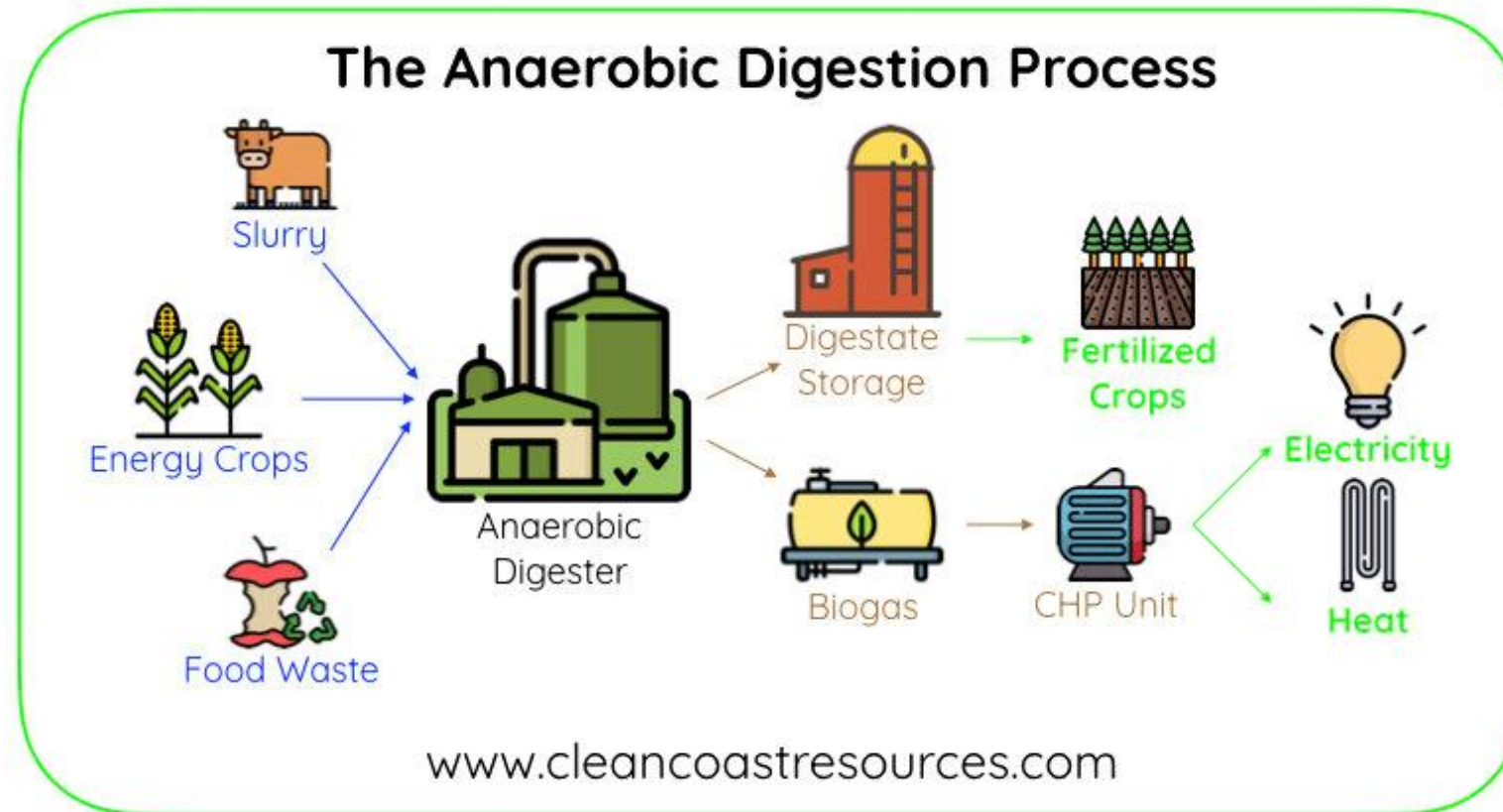
## Algae as a soy replacement

- High protein content: 30-50%
- Balanced amino acid composition
- No need for arable land
- No need for mineral fertilizer?





## Using digestate as a nutrient source





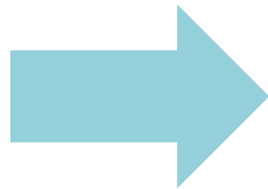


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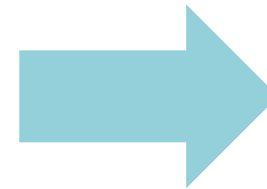
## The algae lighthouse demo



Digestate pretreatment



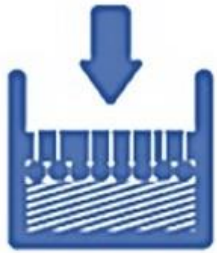
Algae cultivation



Harvesting



## Digestate pretreatment



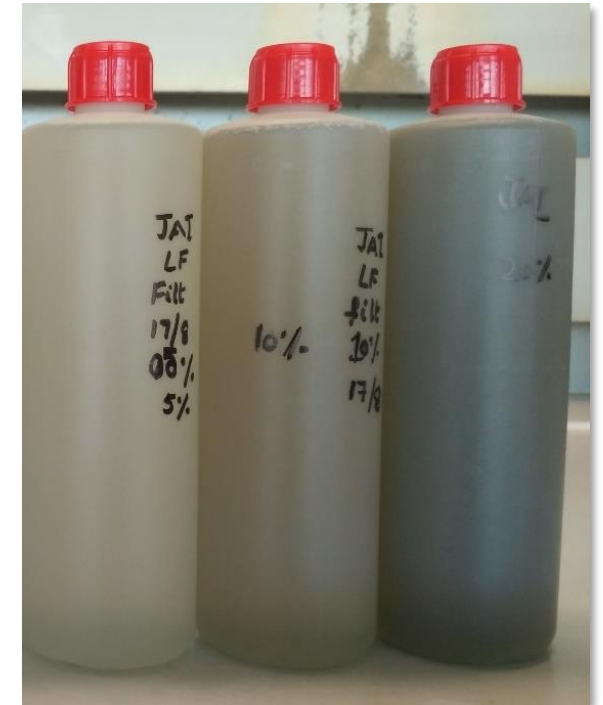
Dilution with  
tap water  
(3x = 33% v/v)



Filtration on a  
10 $\mu$  membrane  
(microfiltration)



Dilution  
between  
2.5 to 5 %  
in PBR



5%

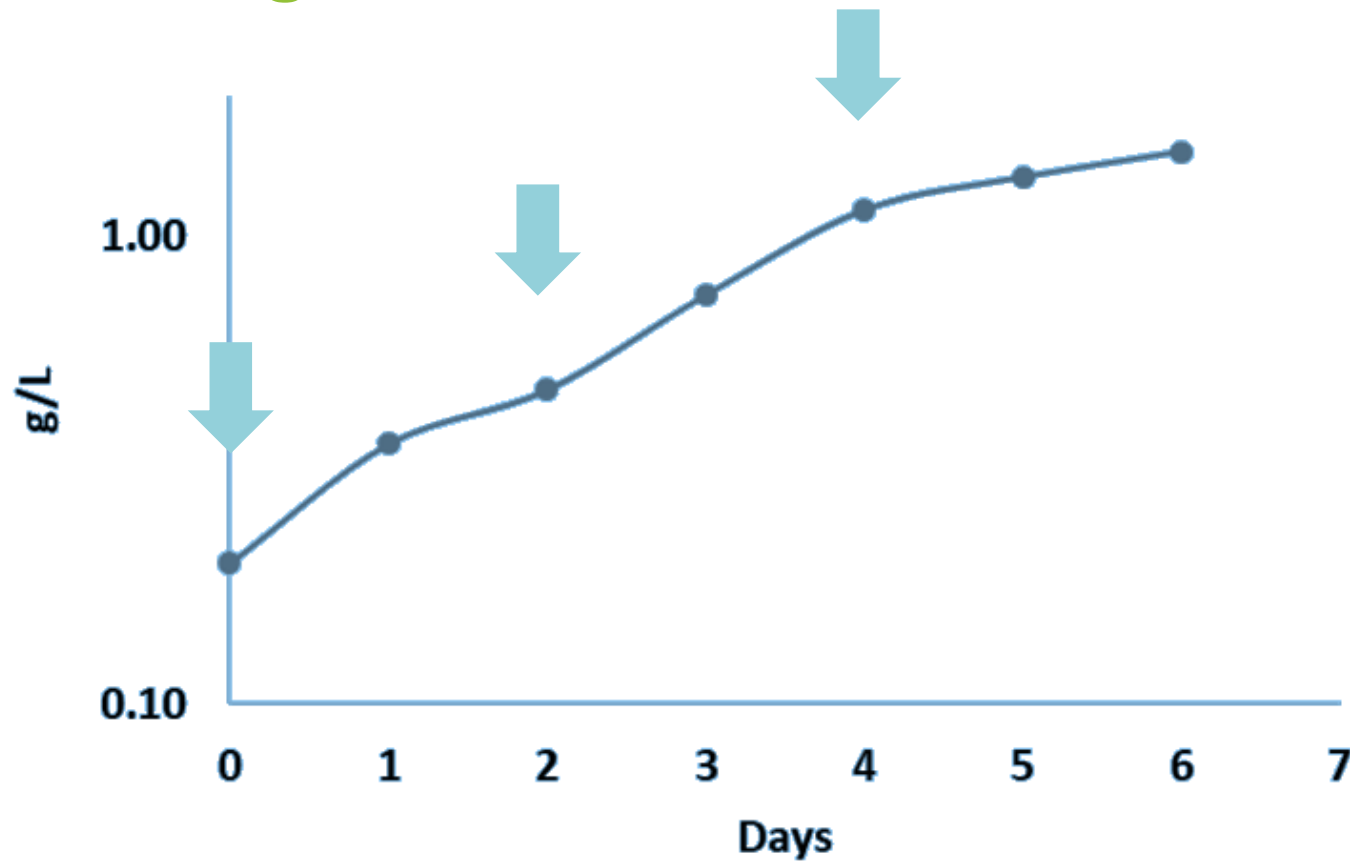
10%

20%



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## Algae cultivation



Total feeding:

3.5% digestate (~100 mg/L N-NH<sub>4</sub><sup>+</sup>)

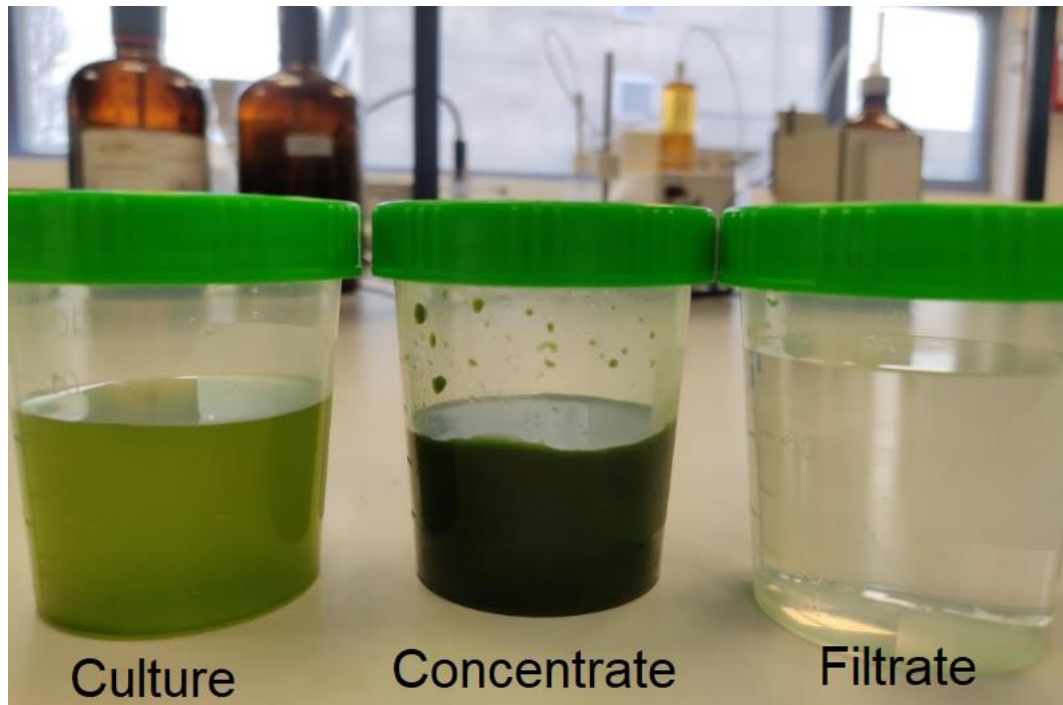
Final biomass concentration:

1.5 – 2.0 g/L

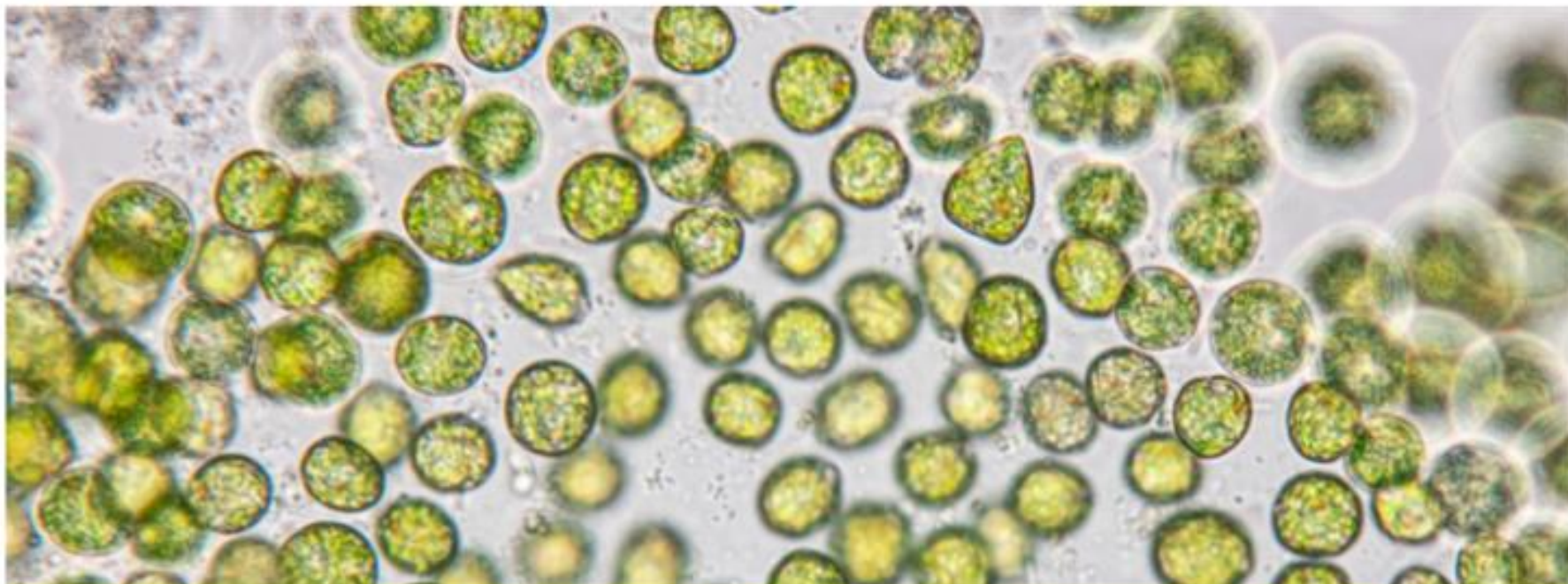


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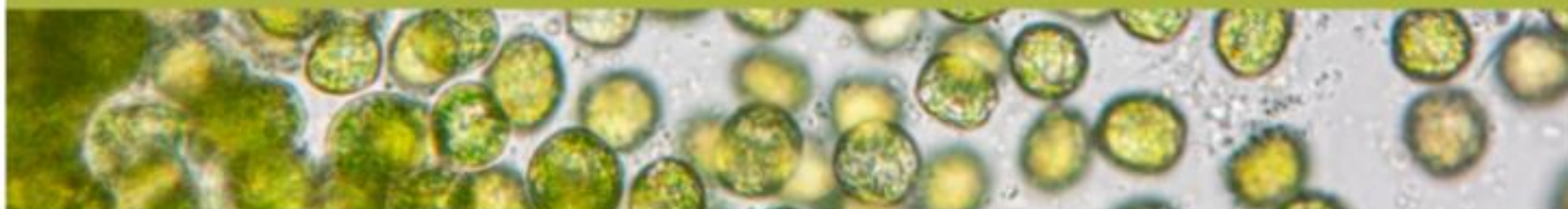
## Harvesting







# Using agri-food liquid streams for algal cultivation



# SAVE THE DATE

## THURSDAY 19 MAY 2022

Interreg  
North-West Europe  
ALG-AD

InnoLab



NUTRICYCLE  
VLAANDEREN

EUROPEAN UNION  
European Regional Development Fund

UNIVERSITEIT  
GENT



**Nutri2Cycle**  
Nurturing the Circular Economy

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**[www.nutri2cycle.eu](http://www.nutri2cycle.eu)**

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