## FOOD PROTOTYPES



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ProlificH2020

PROLIFIC-INTEGRATED CASCADES
OF PROCESSES
FOR THE EXTRACTION OF
PROTEINS AND BIOACTIVE
MOLECULES FROM LEGUMES,
FUNGI AND COFFEE
AGRO-INDUSTRIAL SIDE STREAMS





## F00D PROTOTYPES







LEGUMES (not compliant fresh or dry peas, green beans, chickpeas)



FUNGI (mycelia, processing cutting)



COFFEE (silver skin, not compliant green seeds)





ENZYME
ASSISTED EXTRACTION (proteins/peptides)



**ALKALINE EXTRACTION (proteins)** 



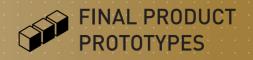
EXTRACTION (chitosan, polyphenols, caffeine)



ULTRASOUND ASSISTED EXTRACTION (proteins, polyphenols)



SCALE UP PROCESSES



PROTEINS, PEPTIDES, AMINO ACIDS:

**Bread** enriched with proteins, peptides, aminoacids

Protein-enriched breakfast and pasta products

Protein-enriched vegetarian/vegan meat surrogates

CELLULOSE/HEMICELLULOSE , CHITOSAN,  $\beta$ -GLUCANS:

Chitosans and  $\beta$ -glucans enriched **pasta** and **vegan/vegetarian meat surrogates** 

 $\beta$ -glucans as additives in cooked meat

POLYPHENOLS, CAROTENOIDS, PHYTOSTEROLS, CAFFEINE:

**Breakfast snacks** with polyphenols and/or caffeine

Polyphenols, carotenoids as additives in minced **meat** products



**OIGV** 







## **POTENTIAL BENEFITS**

high nutritional value and healthy food

demand for vegatarian/vegan food with equilibrated protein content