

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

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FOOD PROTOTYPES



RESIDUES



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

FUNGI
(mycelia, processing cutting)

COFFEE
(silver skin, not compliant green seeds)



EXTRACTION
PROCESSES



**ENZYME
ASSISTED EXTRACTION** (proteins/peptides)

ALKALINE EXTRACTION (proteins)

EXTRACTION (chitosan, polyphenols, caffeine)

**ULTRASOUND
ASSISTED EXTRACTION** (proteins, polyphenols)

SCALE UP PROCESSES



FINAL PRODUCT PROTOTYPES

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,
β-GLUCANS:

Chitosans and β-glucans enriched **pasta** and
vegan/vegetarian meat surrogates

β-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**

POTENTIAL BENEFITS

high nutritional value and healthy food

demand for vegetarian/vegan food with equilibrated
protein content