



Book of Abstracts

Trend in grain-based foods

Transcolab Summit

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Title

Trends in grain-based foods

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1° Trends in grain-based foods

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Trends in grain-based foods

SUSTAINABLE INGREDIENTS, PROCESSES AND PRODUCTS

MARCH 24TH, MORNING

- ▶▶ 9:00-9:30 OPENING SESSION
LILLIAN BARROS - SUMMIT CHAIR
NUNO RIBEIRO - DIRECTOR OF ESTIG
LUÍS PAIS - VICE-PRESIDENT OF IPB
ISABEL FERREIRA - STATE SECRETARY OF INLAND IMPROVEMENT
- ▶▶ 9:30-13:00 SECTION 1: PAST AS KEY TO THE FUTURE
CHAIRS: SANDRINA HELENO AND MÁRCIO CAROCHO
- ▶▶ 09:30-10:00 PLENARY SESSION 1: ALESSANDRA MARTÍ
- ▶▶ 10:00-11:00 ORAL SESSION 1
 - 10:00-10:10 RITA BELTRÃO MARTINS
"ACORN FLOUR: AN INGREDIENT FROM THE PAST READY FOR THE FUTURE"
 - 10:10-10:20 KATERINA ATHINAIOU
"TECHNOLOGICAL AND NUTRITIONAL CHARACTERIZATION OF WHEAT FROM ANCIENT CROPS"
 - 10:20-10:30 VANÉZIA ROCHA
"BROADENING FOOD SECURITY THROUGH GRAIN-BASED SOLUTIONS: AFRICAN MILLETS AND THEIR CABO VERDE AN WILD RELATIVE"
 - 10:30-10:40 CARLA BRITES
"RICE AUTHENTICITY & TRACEABILITY, ELEMENTS OF SUSTAINABILITY AND QUALITY DIFFERENTIATION"
 - 10:40-10:50 MANUEL AYUSO
"COMPARATIVE ANALYSIS OF THE CHEMICAL COMPOSITION OF DIFFERENT PORTUGUESE BREAD"
 - 10:50-11:00 MARIA OTILIA CARVALHO
"THE IMPACT OF TRIBOLIUM CASTANEUM INFESTATIONS ON QUALITY OF WHEAT FLOUR FOR BREAD-MAKING"
- ▶▶ 11:00-11:30 COFFEE BREAK AND POSTER SESSION
- ▶▶ 11:30-12:30 ORAL SESSION 2
CHAIRS: ELIANA PEREIRA AND ANGELA FERNANDES
 - 11:30-11:40 ANA CATARINA RIBEIRO
"YEAST PROTEIN EXTRACT AS AN ALTERNATIVE PROTEIN IN THE FORMULATION OF MAYONNAISE"
 - 11:40-12:00 STEFAN LUNGGREN (PERKINELMER)
"MEASURING INGREDIENT PERFORMANCE, CHARACTERIZING PROCESSING EFFECTS, AND DODGING BULLETS IN THE PLANT PROTEIN WILD WEST"
 - 12:00-12:15 ISABEL REINAS
"INNOVATION IN BAKERY AND PÂTISSERIE INDUSTRY - THE CASE OF TECPAN"
 - 12:15-12:30 JUAN CARBAJO AGUIRRE
"COLLABORATE TO MOVE FORWARD"
- ▶▶ 12:30-13:00 PLENARY SESSION 2: CARLO GIUSEPPE RIZZELLO

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SUSTAINABLE INGREDIENTS, PROCESSES AND PRODUCTS

MARCH 24TH, AFTERNOON

15:00-18:30 SECTION 2: NEW INGREDIENTS IN GRAIN-BASED PRODUCTS

CHAIRS: MANUEL AYUSO AND FILIPA REIS

15:00-15:30 PLENARY SESSION 3: CLAUDIA M. HAROS

15:30-16:30 ORAL SESSION 3

15:30-15:40 MARIA INÉS DIAS

"NON-CONVENTIONAL SEEDS FOR THE DEVELOPMENT OF NEW BAKERY PRODUCTS: A NEW TREND OR MYTH?"

15:40-15:50 CARLOS SHIRAISHI

"FIG (FICUS CARICA L.) BIORESIDUES AS SOURCES OF BIOACTIVE COMPOUNDS AND NATURAL PIGMENTS FOR THE FOOD INDUSTRY"

15:50-16:00 MARTA MESIAS

"RISK/BENEFITS OF NEW INGREDIENTS ADDED TO NOVEL CEREAL-BASED FORMULATIONS"

16:00-16:10 ANABELA RAYMUNDO

"MICROALGAE AS A VALUABLE INGREDIENT FOR BREAD ENRICHMENT: INFLUENCE ON THE DOUGH RHEOLOGY AND BREAD MAKING PERFORMANCE"

16:10-16:20 MARÍA FRANCO

"PSYLLIUM: A NATURAL BAKERY IMPROVER"

16:20-16:30 YAMINA ABSI

"MINERAL AND PROXIMATE COMPOSITION OF COMMERCIAL PLANT-BASED FLOURS"

16:30-17:00 COFFEE BREAK AND POSTER SESSION

17:00-18:00 ORAL SESSION 4

CHAIRS: BRUNO MELGAR AND MIGUEL PRIETO

17:00-17:10 JESÚS MARÍN SÁEZ

"CEREALS AND PSEUDOCEREALS CONTAMINATED WITH TROPANE ALKALOIDS: ANALYTICAL TOOLS TO ASSURE FOOD SAFETY"

17:10-17:20 BEATRIZ NUNES SILVA

"OPTIMISATION OF HYDROCOLLOIDS DOSES IN GLUTEN-FREE BREAD MADE OF FLAXSEED AND RED LENTILS FLOUR BLEND"

17:20-17:30 FERNANDA FERREIRA

"A BREAKTHROUGH ON BREAD FORMULATION: NATURAL MINERAL WATER AS A NOVEL FUNCTIONAL INGREDIENT"

17:30-17:40 ELEOMAR PIRES

"HYDROETHANOLIC EXTRACT OF OCIMUM BASILICUM 'CINNAMON' AS A NATURAL PRESERVATIVE FOR THE FOOD INDUSTRY"

17:40-17:50 VANESSA VIEIRA

"THE POTENTIAL OF AROMATIC EXTRACTS TO ENHANCE THE SENSORY PERCEPTION OF BREAD"

17:50-18:00 ISABEL SOUSA

"DAIRY GLUTEN-FREE BREAD: TECHNOLOGICAL, NUTRITIONAL, AND FUNCTIONAL ENHANCEMENT BY CURD CHEESE SUPPLEMENTATION"

18:00-18:30 PLENARY SESSION 4: LAURA ROMÁN

20:30 DINNER

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SUSTAINABLE INGREDIENTS, PROCESSES AND PRODUCTS

MARCH 25TH, MORNING

→ 9:00-12:30 SECTION 3: NOVEL TECHNOLOGIES, PROCESSES, AND PRODUCTS
CHAIRS: MARIA INÉS DIAS AND CARLA PEREIRA

→ 09:00-9:30 PLENARY SESSION 5: MARIO MARTÍNEZ

→ 9:30-11:10 ORAL SESSION 5

9:30-9:40 RICARDO N. PEREIRA

"ELECTRIC FIELDS - A PROMISING TECHNOLOGY TOWARDS SUSTAINABLE PROCESSING OF GRAIN-BASED FOODS"

9:40-9:50 ERIKA N. VEGA

"EXTRUDED FORMULATIONS BASED ON RICE AND CHICKPEA: DIETARY FIBER AND OLIGOSACCHARIDES"

9:50-10:00 LIEGE PASCOALINO

"BREAD FREEZING AS A NEW ALTERNATIVE TO CONSUMPTION"

10:00-10:10 CAROLA CAPPÀ

"STUDY OF THE TURBO-TECHNOLOGY POTENTIAL IN THE PRODUCTION OF GLUTEN-FREE INGREDIENTS AND POTATO-BASED PASTA"

10:10-10:20 ÁNGEL L. GUTIÉRREZ

"APPLICATION OF SHORT-TIME HIGH HYDROSTATIC PRESSURE TREATMENTS TO WHOLE BUCKWHEAT GRAINS TO MODULATE THE FUNCTIONAL PROPERTIES OF THE RESULTING FLOURS"

10:20-10:30 ANTONIO J. VELA

"PHYSICAL MODIFICATION OF RICE FLOUR VIA ULTRASONICATION. INFLUENCE OF TREATMENT TIME AND TEMPERATURE"

10:30-10:40 NATALIA P. VIDAL

"IMPROVING THE NUTRITIONAL VALUE OF COLD-PRESSED OILSEED CAKES THROUGH EXTRUSION COOKING"

10:40-10:50 COSTANZA CECCANTI

"ENRICHMENT OF FRESH EGG PASTA WITH ANTIOXIDANT EXTRACTS OBTAINED FROM WILD ITALIAN PLANTAGO CORONOPUS L. AND CHICORIUM INTYBUS L. AND QUALITY CHARACTERISATION OF THE FRESH END PRODUCT"

10:50-11:00 ROSALIA LOPEZ-RUIZ

"NEW INGREDIENTS IN THE PREPARATION OF COOKIES TO MITIGATE ACRYLAMIDE CONTENT"

11:00-11:10 MIRIAM HERNÁNDEZ-JIMÉNEZ

"APPLICABILITY OF NEAR INFRARED SPECTROSCOPY ON WHEAT FLOUR SUPPLEMENTED WITH LENTIL FLOUR"

→ 11:10-11:30 COFFEE BREAK AND POSTER SESSION

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SUSTAINABLE INGREDIENTS, PROCESSES AND PRODUCTS

MARCH 25TH, MORNING/AFTERNOON

- 11:30-12:50 SECTION 4: SUSTAINABILITY AND CIRCULAR ECONOMY
CHAIRS: CRISTINA CALEJA AND JOSÉ PINELA
- 11:30-12:00 PLENARY SESSION 6: MANUELA PINTADO
 - 12:00-12:10 ISABEL MARIA FERREIRA
"FLOURS MADE FROM FRUIT BY-PRODUCTS AS SUSTAINABLE INNOVATIVE INGREDIENTS: ARE THEIR MINERALS BIOACCESSIBLE?"
 - 12:10-12:20 ROSSANA CARDOSO
"CEREAL MILLING BY-PRODUCTS AS SOURCES OF NUTRIENTS AND ANTIOXIDANT PHENOLIC COMPOUNDS"
 - 12:20-12:30 HANINE HACHED
"RESPONSE SURFACE METHODOLOGY APPLIED TO ESSENTIAL OIL EXTRACTION OF EUCALYPTUS LEAVES"
 - 12:30-12:40 TERESA SIGÜENZA-ANDRÉS
"DEVELOPMENT OF A FERMENTED PLANT-BASED BEVERAGE FROM DISCARDED BREAD FLOUR"
 - 12:40-12:50 FILIPA MANDIM
"STUDY OF THE PHENOLIC PROFILE AND BIOACTIVE POTENTIAL OF CARDOON BRACTS AS A PROMISING FUNCTIONAL INGREDIENT"
- 13:00-14:30 LUNCH TIME
- 14:30-16:00 DISCUSSION PANEL: "MYTHS AND TRUTHS ABOUT CEREAL CONSUMPTION"
CHAIR:
SILVIA BRANDÃO
SPEAKERS:
ELISABETE FERREIRA
MARIA FRANCO
JORGE PASTOR MORENO
MANUEL GOMES PALLARES
EDUARDO VILLAR ROMO
GEMMA DEL CAÑO
EDUARDO TALLON
- 16:00-16:30 CLOSING SESSION AND CLOSURE OF THE TRANSCOLAB PROJECT
(LANGUAGE: SPANISH & PORTUGUESE)
- 16:30 PORTUGUESE WINE

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NUTRITIONAL AND CHEMICAL EVALUATION OF DIFFERENT ARMUÑA LENTILS CULTIVARS (*LEN CULINARIS* SPP) FROM PGI “RUBIA DE LA ARMUÑA”, GROWN IN DIFFERENT SOILS

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Lentils (*Lens culinaris* Medik) are part of an ancient culture, characterized for being a fast-cooking pulse consumed worldwide due to its richness in proteins, dietary fibers, complex carbohydrates, and essential micronutrients [1,2]. Lentil's production and chemical composition are largely influenced by their resistance to biotic and abiotic stresses, conditioned not only by their variety but also by the climatic conditions and composition of the soils in which they grow [3]. Additionally, among some edaphic influences, the accessibility of the right nutrients for plants is of supreme importance, with a variety of micronutrients present in the soil being identified as crucial in both growths, chemical, and nutritional composition, and production of lentils [4]. To the north of the Salamanca province (Spain), there is the comarca of La Armuña, which belongs to a Protected Geographical Indication (PGI), characterized by the occurrence of climates with low precipitation, long and cold winters, and hot and dry summers. Therefore, the present study aims to provide an evaluation of the nutritional and chemical profiles of different samples of Armuña lentils “Rubia de La Armuña” grown in two different types of soils (luvisol and combisol), thus contributing to the characterization of this variety and the potential influence of edaphic factors in its composition. Samples were studied for their nutritional value following AOAC procedures and, free sugars and organic acids were analyzed by chromatographic techniques [3]. The results show similar amounts of the evaluated parameters, with carbohydrates and proteins being the outstanding macronutrients (68.1±0.3 and 25.17±0.03 g/100 g of fresh weight, respectively). Sugars such as fructose, glucose, and raffinose, and organic acids such as oxalic and malic acid were also detected in similar amounts between samples. In sum, the results show that different samples of the same variety of PGI lentils cultivated in these specific types of soils do not present significant differences in the analyzed nutritional and chemical parameters.

References

- [1] Nosworthy MG, Neufeld J, Frohlich O, et al. *Nutr. Food Sci.* 2017, 5, 896-903.
- [2] Khazaei H, Podder R, Caron CT, et al. *Plant Genome*, 2017, 10.
- [3] Iyda JH, Fernandes Â, Calhêla, RC, et al. *Food Chem.* 2019, 295, 341-349.
- [4]Karan D, Singh S, Krishi VK, et al. *J. AgriSearch*, 1, 4.

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