
The 7th International Conference

New Trends in Sensing - Monitoring – Telediagnosis
for Life Sciences

NT SMT-LS 2024

BOOK OF ABSTRACTS



September 20 - 22, 2024
Braşov, România
(on site and online participation)



Transilvania University of
Brasov, Romania



University of Medicine and Pharmacy
"Carol Davila"
Bucharest, Romania



Università Degli Studi di
Milano, Italy

University of Ljubljana



University of Ljubljana, Slovenia



Université de Perpignan Via Domitia,
France



Universsity of Lisbon, Portugal



**Fondazione
Italiana
Fegato
ONLUS**

Italian Liver Foundation, Trieste, Italy

O.2.1. Characteristics of enrichment of fresh pasta with bee drone brood flour

Paula CORREIA (1), Gisela TEIXEIRA (2), Ana SILVA (1), Raquel GUINÉ (1),
António MOITINHO (3), Inês PITACAS (3), João GONÇALVES (1)

1- CERNAS-IPV Research Centre, Polytechnic University of Viseu, Viseu, Portugal

2- Agrarian High School of Polytechnic University of Viseu, Viseu, Portugal

3- CERNAS-IPCB Research Centre, Polytechnic University of Castelo Branco, Castelo Branco, Portugal

paulacorreia@esav.ipv.pt

The fortification of staple food is one of the goals of modern technologies. Edible insects are considered a rich source of valuable nutrients and health-related compounds.

Preparation of pasta replacing wheat semolina flour with drone brood flours (F), rich in protein (27-38%), was tested.

DF was obtained by the cold (CE) and hot (HE) extraction processes. After several trials, it was possible to incorporate 10% DF-CE, and 20% DF-HE. Pastas were evaluated in terms of their technological characteristics (optimum cooking time (OCT), cooking losses, swelling index), physical characteristics (colour and texture), chemical characteristics (nutritional composition) and sensory characteristics, and compared with a control pasta (0% DF).

The addition of DF increased the OCT, cooking loss and swelling index. The water absorption increased in the case of 10% DF-CE pasta. The incorporation of DF-CE caused a darker product, however, the incorporation of DF-CE resulted in a slightly lighter product, compared with the control sample. In general, the addition of DF led to an increase in the hardness of pasta, particularly in the 20% DF-HE samples. Moreover, pasta with added DF had a higher protein and ash content, thus increasing its nutritional quality. Sensorially, the DF pasta had an overall appreciation and a preferential purchase intention by the tasters, standing out in terms of the intensity of colour and aroma compared to the control pasta.

DF is a promising ingredient in pasta production, contributing to human health and at the same time promoting economic returns.

Acknowledgements: This work was financially supported by the FCT—Foundation for Science and Technology (Portugal). Furthermore, we would like to thank the Research Centres CERNAS (Ref: UIDB/00681/2020; Doi: 10.54499/UIDB/00681/2020), through the internal project “F.DRONE-Production and valorisation of dwarf flour in the development of new products”. The authors would like to thanks to Polytechnic University of Viseu and the Polytechnic University of Castelo Branco for their support. We would also like to thank all the beekeepers who supplied the dwarf frames for this project.