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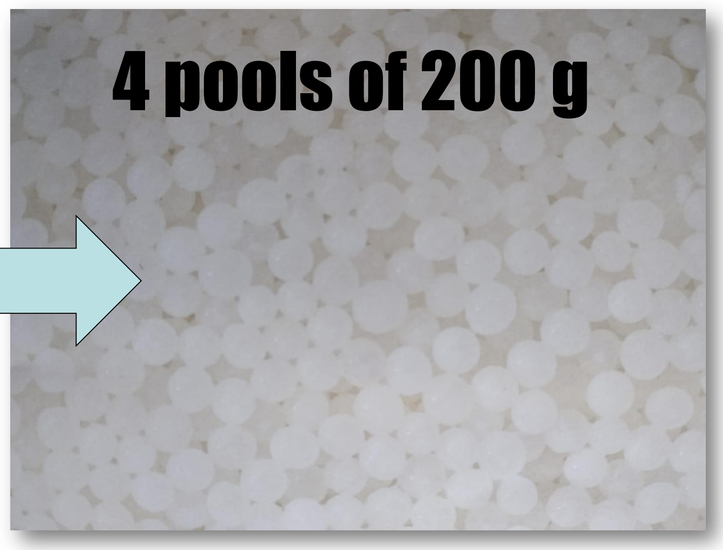
MICROBIOLOGICAL ASSESSMENT OF LAND SNAIL'S CAVIAR PRODUCED IN SICILY, SOUTHERN ITALY: A FIRST REPORT

S. Sciortino1, A. Pulvirenti2, G. Cammilleri1,2, C. Cardamone1, G. Giangrosso1, C. Fiorista1, A. Vella1, V. Ferrantelli1

1 Istituto Zooprofilattico Sperimentale della Sicilia "A. Mirri", via Gino Marinuzzi 3, 90129 Palermo, Italy.
2 Dipartimento di Scienze della Vita, Università degli studi di Modena e Reggio Emilia, Via Università 124, 41121 Modena, Italy.

INTRODUCTION: Terrestrial gastropods, commonly named snails, constitute a niche food product, traditionally appreciated by Italian consumers. Recently, attention has also been paid for land snails' caviar, given the role they are playing in luxury gastronomy. The production of Sicilian snail caviar is constantly expanding, it is also exported to Spain, France, Portugal and Belgium. Sicily's climate facilitates its growth. Requested even in Russia, Switzerland and Dubai by starred chefs and in niche markets, caviar is currently sold at 1800 euros per kg, arousing curiosity and interest. However, as far we know, no toxicological and microbiological data are available in order to ensure the consumer health. This work aimed at give the first report on microbiological assessment of land snails' caviar produced *by Cornu aspersum* species in Sicily (Southern Italy).

MATERIALS AND METHODS



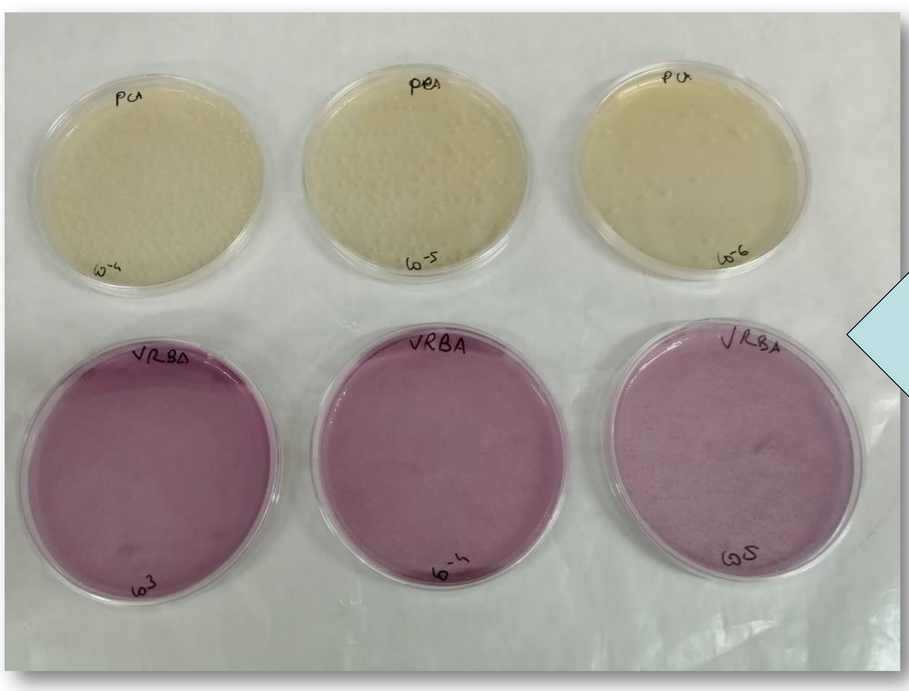
Storage at +4°C

T0

T10 days

T20 days

RESULTS



Microbiological analysis

- *L. Monocytogenes* (UNI EN ISO 11290-1:2017)
- *Salmonella* spp. (ISO 6579-1:2017)
- Total mesophilic count at 30°C (ISO 4833-1:2013)
- Coagulase-positive staphylococci (ISO 6888 - 1:1999/Amd 1:2003)
- Sulphite reducing anaerobes (ISO 15213:2003)
- *Escherichia coli (ISO 16649-2:2010)*
- Coliforms (ISO 4832:2006)
- Yeasts and moulds (ISO 21527-1:2008)

All the sample pools examined were negative to the most tested microbes except to the Total mesophilic count, coliform, yeasts and moulds. The hygienic condition did not have a significant change after 10 and 20 days except for yeasts and moulds, that suffer a proportional increase of 1 log UFC/g. Regarding the pH and the free water, the sample pools showed overlapping values in the three analysis times.

CONCLUSIONS: The results of microbiological analysis revealed good hygienic conditions of the product examined, showing an elevated shelf-life until 20 days of storage. The present work reported for the first time the health aspects of this innovative product, revealing the lack of necessity to the use of preservative additives (such as ascorbic acid etc.), that could compromise its organoleptic properties.

REFERENCES: Cicero A, Giangrosso G, Cammilleri G, Macaluso A, Currò V, Galuppo L, Vargetto D, Vicari D, Ferrantelli V. 2015. Microbiological and Chemical Analysis of Land Snails Commercialised in Sicily. Ital J Food Saf. 4:4196.