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DIPARTIMENTO DI AGRARIA

REGIONE AUTÒNOMA DE SARDIGNA
REGIONE AUTONOMA DELLA SARDEGNA
Granted by L.R. 7/2007

Sassari, venerdì 16 ottobre 2015 | 09,30 - 13,00
aula magna Barbieri - dipartimento di Agraria

WORKSHOP

BIOTECHNOLOGICAL PRODUCTION OF CAROTENOIDS:
is there a future for red yeasts?

9.30-9.50 **WELCOME INTRODUCTION**
Antonello Pazzona (Director of Dipartimento di Agraria, University of Sassari, Italy)
Ilaria Mannazzu (Chair, Dipartimento di Agraria, University of Sassari, Italy)

FIRST PART: THE WORLD AND COMPLEXITY OF RED YEASTS

9.50-10.15 *The biodiversity of red yeasts: how many and how much?* (Pietro Buzzini, University of Perugia, Italy)
10.15-10.40 *The power and beauty of red yeasts* (Milan Certik, University of Bratislava, Slovak Republic)
10.40-11.05 *The potential of proteomics for understanding red yeasts: approaches, issues, and perspectives* (Maria Filippa Addis, Porto Conte Ricerche, Alghero, Italy)

11.05-11-35 **Coffee break**

SECOND PART: THE USEFULNESS OF RED YEASTS

11.35-12.00 *At line methods for the analysis of carotenoids* (Teresa Lopes da Silva, Laboratorio Nacional de Energia e Geologia, Lisbon, Portugal)
12.00-12.25 *Use of high-throughput techniques for characterization of metabolic activity of red yeasts* (Ivana Marova, Brno University of Technology, Czech Republic)
12.25-12.50 *ß-carotene fate and perspectives in animal nutrition* (Maria Grazia Cappai, University of Sassari, Italy)

Yeasts are a group of versatile Fungi, broadly distributed in worldwide microbiomes. Due to their huge diversity they are currently involved in traditional and advanced fermentation technologies, and are considered good candidates for a plethora of biotechnological applications among which the production of carotenoids.

Carotenoids are pigments, synthesized by plants and microorganisms, which find practical application in phytomedicine, as well as in chemical, pharmaceutical, cosmetic, food and feed industries. They can be easily obtained by chemical synthesis but, also due to the public concern about the consumption of synthetic molecules, there is currently great interest in studying pigmented microorganisms for their biotechnological production.

Among yeasts a handful of species of the genera Rhodosporidium, Rhodotorula, Sporobolomyces and Sporidiobolus, labelled as red yeasts, are well known carotenoid producers. Their ability to synthesize mixtures of carotenoids, often from low-cost carbon sources, has been broadly documented. However, much work is still needed to understand how to enhance carotenoid production and to convert these yeasts into suitable cell factories.

The workshop is aimed at discussing the most recent results on the complexity and usefulness of red yeasts, by favouring the brain storming among researchers and stakeholders interested in discovering novel carotenoid overproducing yeasts and developing molecular and analytical tools suitable for the analysis of red yeast carotenogenic pathway.

The workshop is organized by the Department of Agraria of the University of Sassari within the frame of the project: "Studio della biosintesi dei carotenoidi: analisi proteomica e trascrizionale di Rhodotorula glutinis C2.5t1 e di suoi mutanti difettivi nella produzione di pigmenti" granted by Legge Regionale 7/2007 - Annualità 2010. Ilaria Mannazzu P.I.