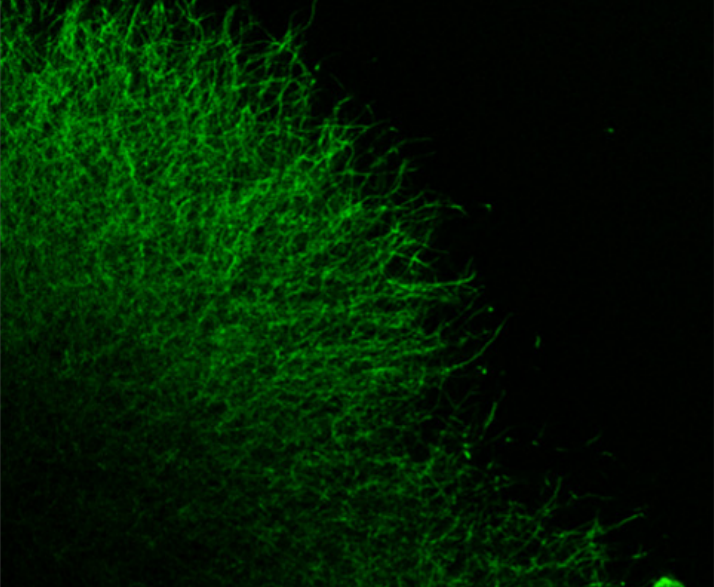
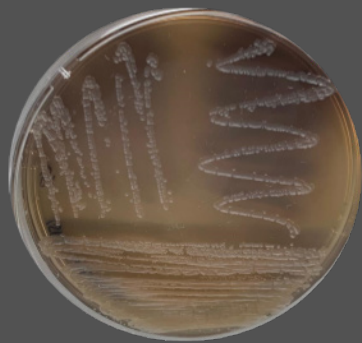




"Sustainable Melanin production by Lignocellulose Agricultural byproducts for food safety applications"



Martedì 9 Settembre 2025 - ore 15.00
Aula Biochimica piano IV-Torre
Biologica (Pad. G), A.O.U. "G.
Martino"

PRESENTAZIONE DELL'EVENTO

Prof. Sergio Lucio Vinci
Direttore Dipartimento BIOMORF,
Università degli Studi di Messina

MODERATORE

Prof. Davide Barreca
Professore ordinario CHIBIOFARAM,
Università degli Studi di Messina

INTRODUZIONE

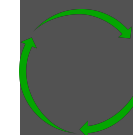
Prof. ssa Teresa Gervasi
Professore associato BIOMORF,
Università degli Studi di Messina

WHY

The MeLA project results will reinforce progress as a reinforcement within the scientific community supporting new ideas, producing new knowledge and driving technical innovation in the field of:

- i) novel food safety systems;
- ii) production of biodegradable films and coatings;
- iii) development of biotechnological production and purification processes to obtain added value products by using agricultural by-products.

SUSTAINABILITY



Melanin production swift from classical extraction to microbial production - a renewable, low-cost and ecofriendly alternative.

INNOVATION



Design and implementation of more efficient biotechnological processes through the use of novel microbial strains and ligno-cellulosic substrates.

SAFE FOOD & GREEN FUTURE



Melanin act as natural antioxidant, antimicrobial and heavy metal chelator, for safer packaging and a more sustainable future



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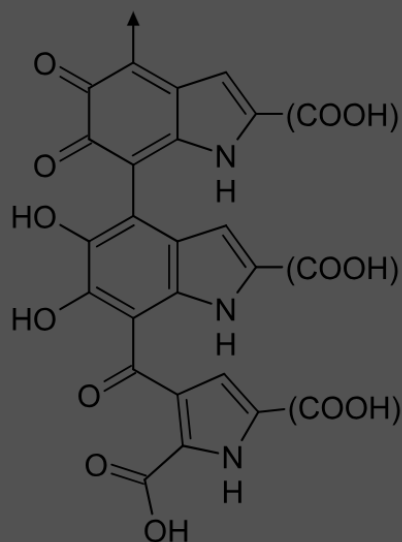


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MeLA

INTERVENGONO:

Prof.ssa Teresa Gervasi
Università degli Studi di Messina

Prof.ssa Odile Francesca Restaino
Università degli Studi di Napoli
Federico II

Prof. ssa Donatella Cimini
Università degli Studi della
Campania "Luigi Vanvitelli"



V • Università
degli Studi
• della Campania
Luigi Vanvitelli

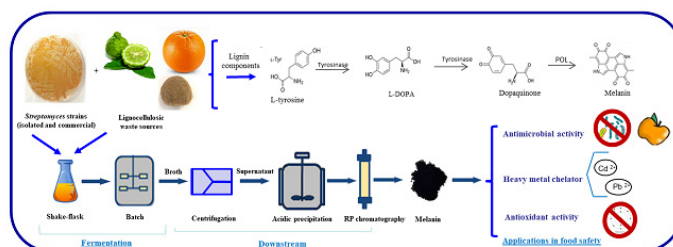
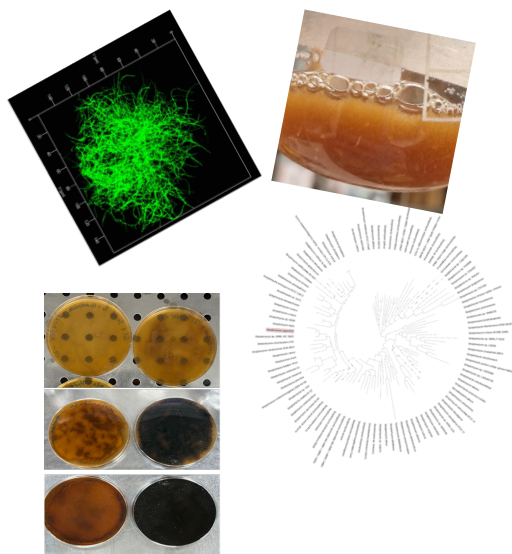


Figure 1. Scheme of the biotechnological melanin production process by using lignocellulosic agriculture by-products.



LINK

KEY POINTS

Recovery of agriculture by-products and characterization of lignocellulose contents.

Isolation and genomic characterization of a new *Streptomyces* strain from environmental niches.

Characterization of its enzymatic activity.

Physiological studies on melanin production by different *Streptomyces* strains in shake flasks.

Metabolic studies for melanin production through supplementation with different by-products in flasks.

Analyses of gene expression related to enzymes involved in by-product degradation and in melanin biosynthesis.

Development and optimization of fermentation and purification processes of melanin on lab scale.

Preparation of melanin-based hydrocolloid films and coatings for food safety applications.

Evaluation of antioxidant, antimicrobial and heavy metal chelating activity of the produced melanin, both as free molecule and incorporated within hydrocolloid films and coatings.



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