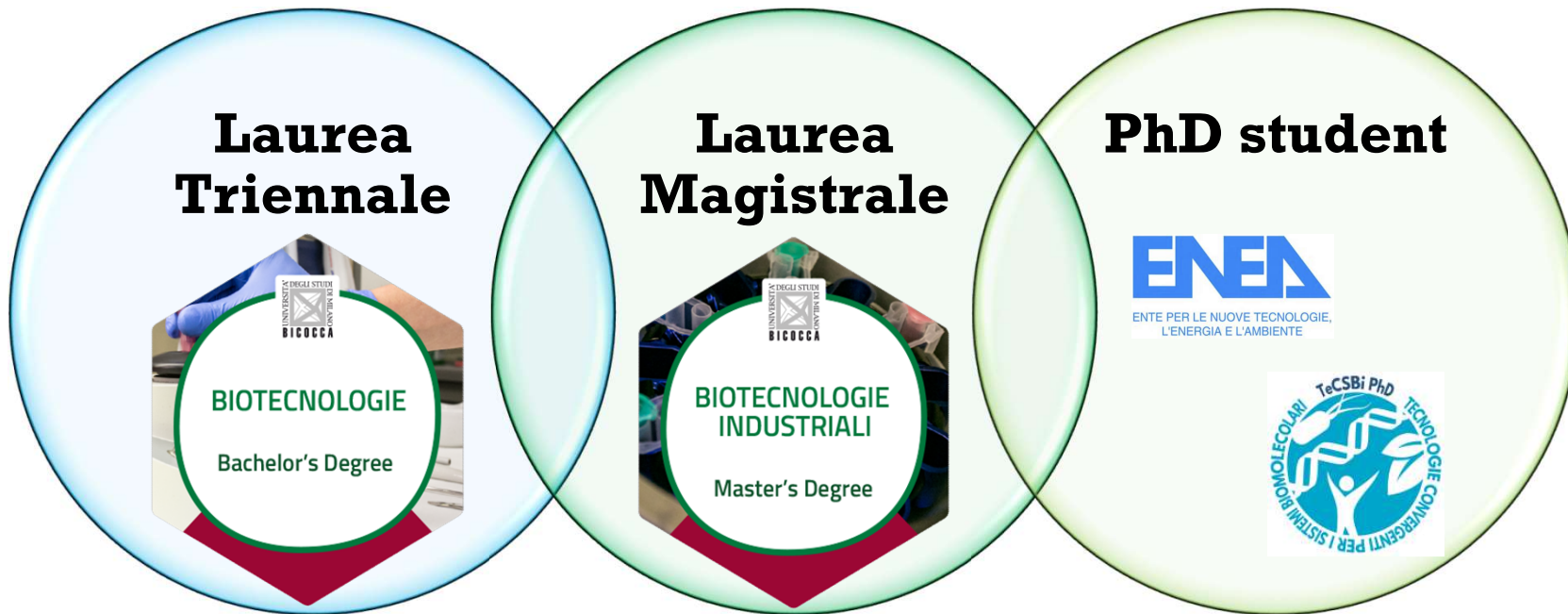


# Evaluation of the sustainability of nutraceuticals starting from residual biomasses in the logic of biorefineries and circular bioeconomy

- PhD student: **Luca Mastella**
- Tutor: Prof.ssa Paola Branduardi
- Dot.ssa Tiziana Beltrani
- Prof. Massimo Labra



# ECONOMIA CIRCOLARE Vs ECONOMIA LINEARE



**ECONOMIA LINEARE**



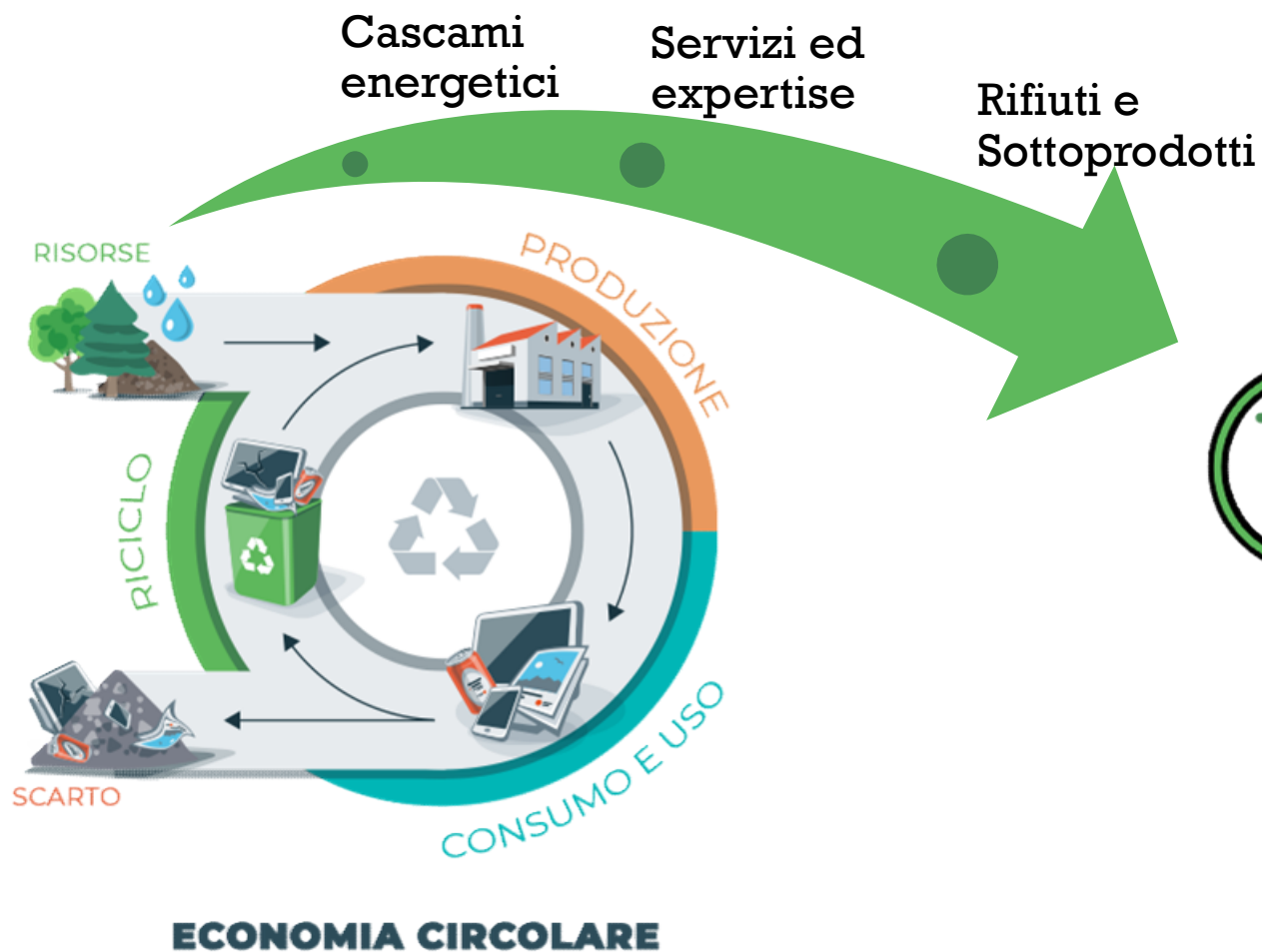
**ECONOMIA CIRCOLARE**

# ECONOMIA CIRCOLARE Vs ECONOMIA LINEARE

- Sicurezza degli approvvigionamenti
- Competitività
- Innovazione e crescita economica
- Incremento dell'occupazione
- Sostenibilità e Logistica



# VERSO LA SIMBIOSI INDUSTRIALE

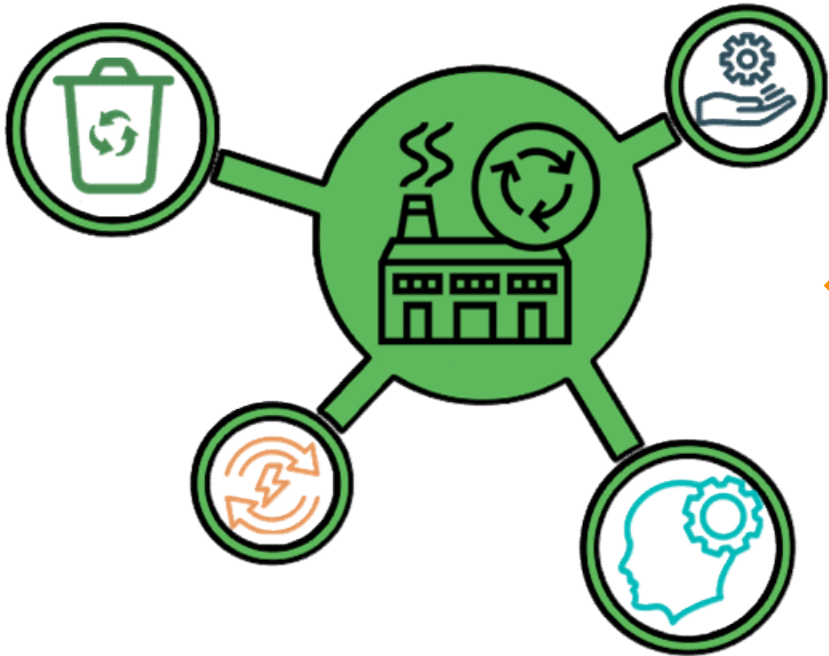


## Simbiosi Industriale



# LA BIORAFFINERIA

## Simbiosi Industriale



## Bioraffinaria

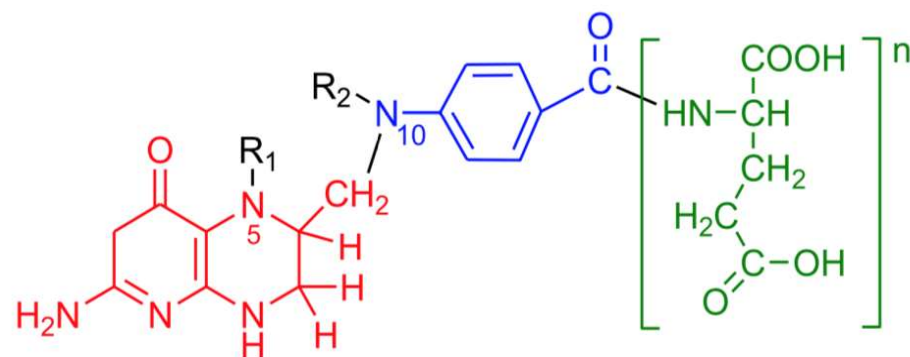


Case study: Produzione Microbica di Vitamina B9

# IL MERCATO DELLA VITAMINA B9



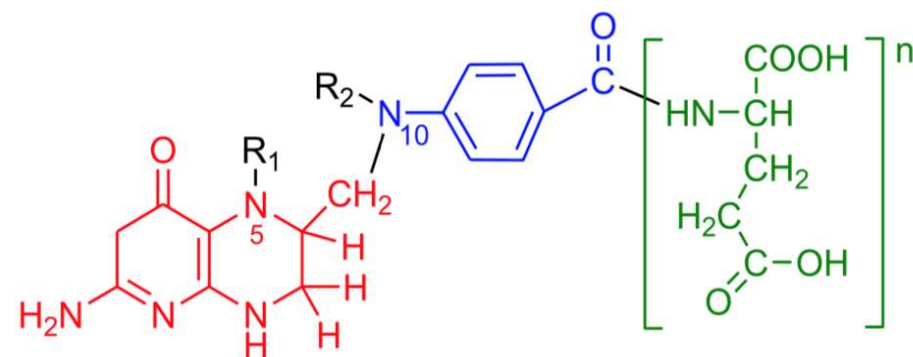
## Vitamina B9 o Folati



# IL MERCATO DELLA VITAMINA B9



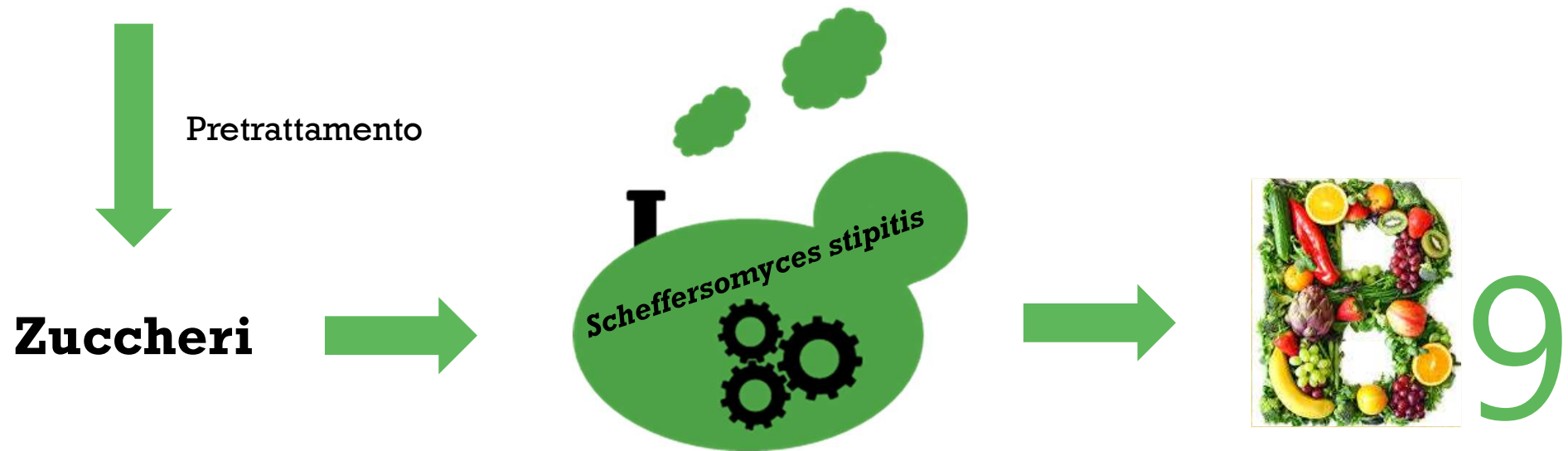
## Vitamina B9 o Folati



# CASE STUDY

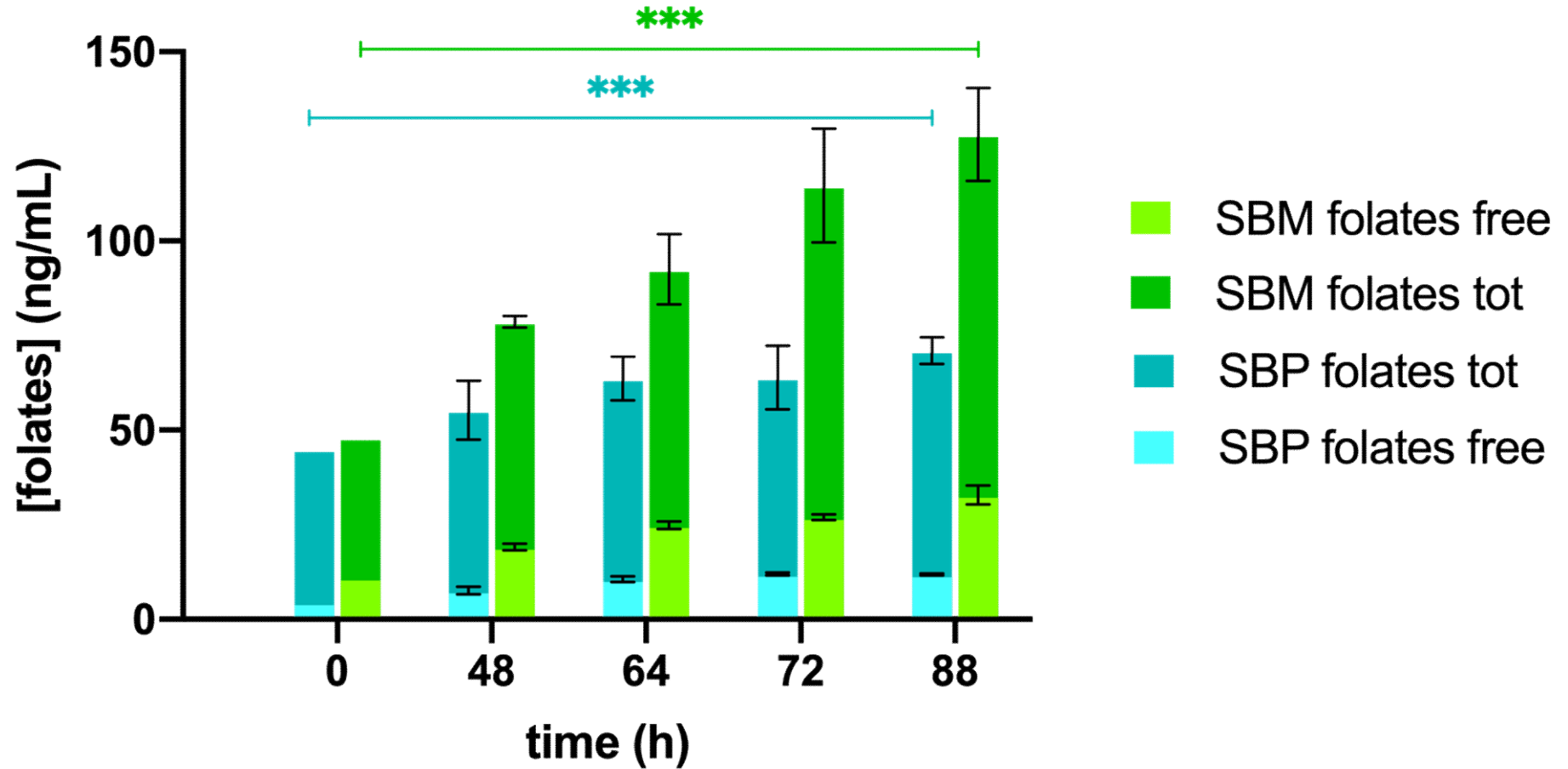
**Sugar Beet Pulp (SBP)**

**Sugar Beet Molasses (SBM)**

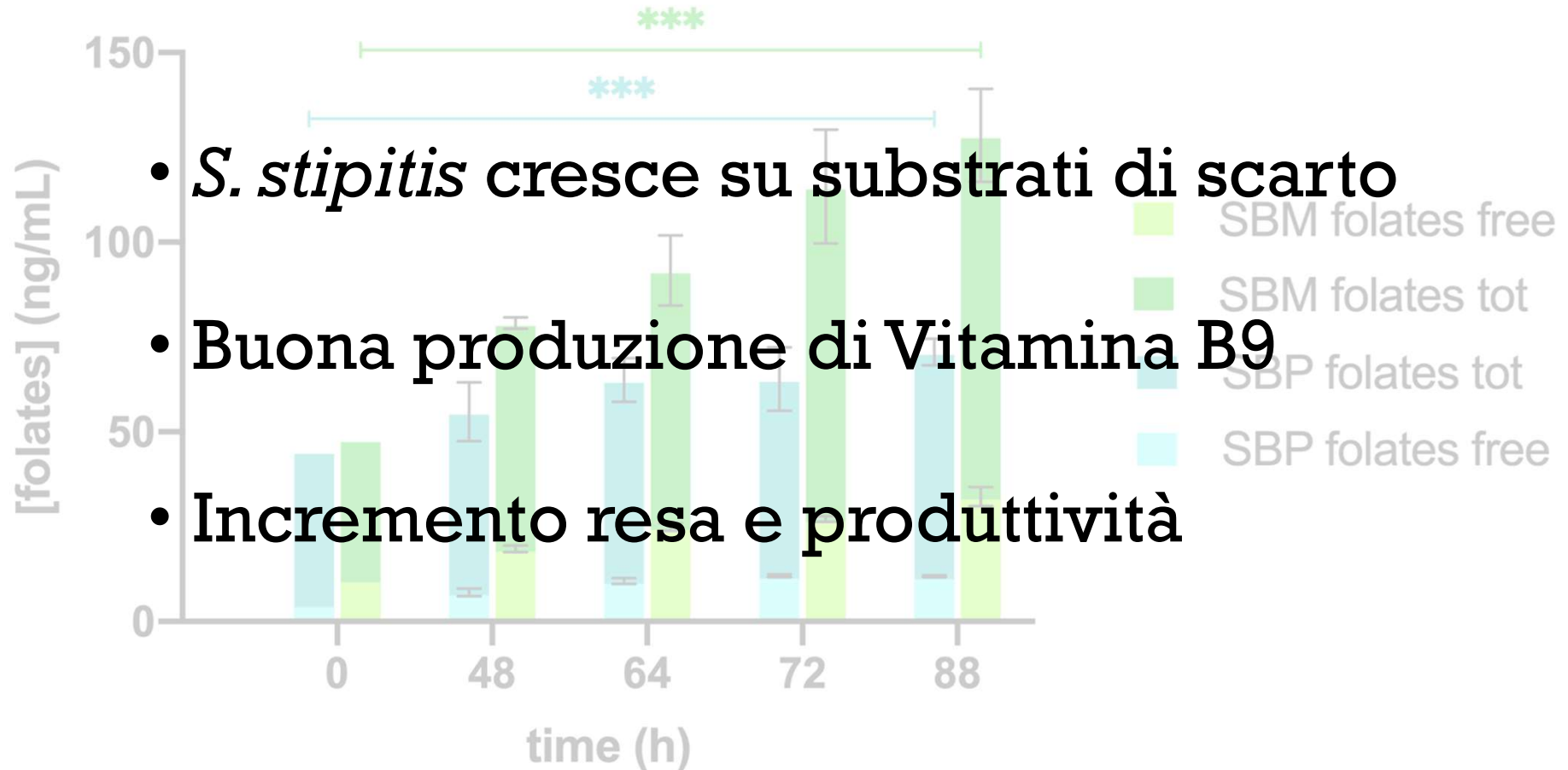




# PRODUZIONE DI VITAMINA B9



## PRODUZIONE DI VITAMINA B9



- *S. stipitis* cresce su substrati di scarto

- Buona produzione di Vitamina B9

- Incremento resa e produttività

# RINGRAZIAMENTI

**ECOMONDO**  
THE GREEN TECHNOLOGY EXPO



**Prof.ssa Branduardi Paola**

**Prof. Labra Massimo**

Bertagnoli Stefano

Giaretta Laura

Di Lorenzo Raffaella

Bertacchi Stefano

Barroso Liliane

Maestroni Letizia

Butti Pietro

Coppolino Martina

**Senatore Vittorio**

Bucchieri Daniela

Fenaroli Gaia

Jayaprakash Pooja

Bahia Fredrico

Ferraz Luis



**Dott.ssa Beltrani Tiziana**

Dott.ssa Cutaia Laura

Dott. La Monica Marco

**Mail: [l.mastella@campus.unimib.it](mailto:l.mastella@campus.unimib.it)**

A word cloud featuring the phrase "thank you" in various languages and scripts. The central and largest text is "thank you" in red. Other prominent words include "gracias" in green, "danke" in blue, and "merci" in orange. Smaller words in various colors include "спасибо", "dziękuję", "obrigado", "sukriya", "kop khun krap", "arigato", "tak", "dakujem", "merci", "mochchakkeram", "go raibh maith agat", "sagolun", "unigolun", "huala", "mauruuru", "dank je", "ngiyabonga", "teşekkür ederim", "tapadh leat", "terima kasih", "감사합니다", "ευχαριστώ", "grazie", "arigato", "tak", "dakujem", "merci", "mochchakkeram", "go raibh maith agat", "sagolun", "unigolun", "huala", "mauruuru", "dank je", "ngiyabonga", "teşekkür ederim", "tapadh leat", "terima kasih", "감사합니다", "ευχαριστώ", "grazie", "arigato", "tak", "dakujem", "merci".

спасибо

bedankt

dziękuję

obrigado

huala

mauruuru

danke

謝謝

dank je

ngiyabonga

teşekkür ederim

tapadh leat

thank you

gracias

mochchakkeram

go raibh maith agat

sagolun

sukriya

kop khun krap

arigato

tak

dakujem

merci

merci

terima kasih

감사합니다

ευχαριστώ

grazie

arigato

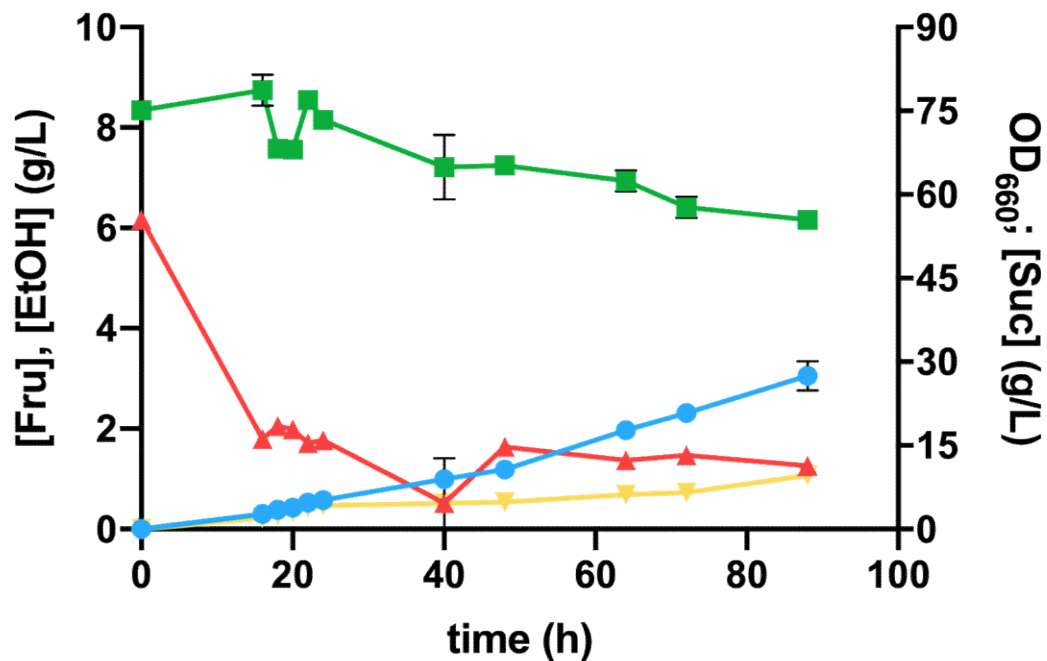
tak

dakujem

merci

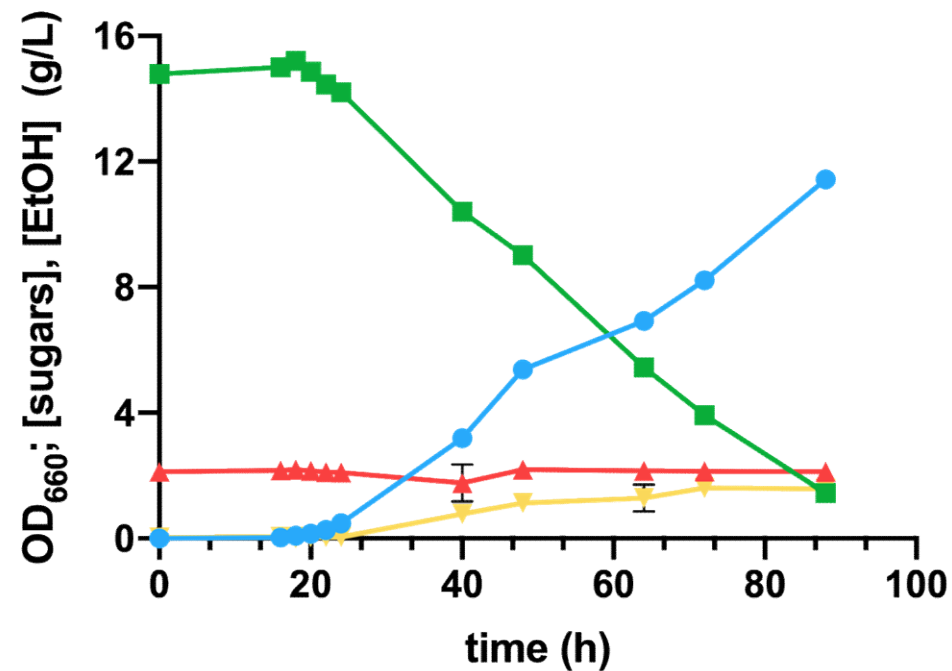
# SCHEFFERSOMYCES STIPITIS COME CELL FACTORY

## SBM



● OD 660    ▲ FRU  
■ SUC    ▼ EtOH

## SBP



● OD 660    ▲ ARA  
■ GLC    ▼ EtOH

# PRODUZIONE DI VITAMINA B9

