

# Fungi with medicinal properties isolated from Kefalonia and Zante islands: Growth behavior on different carbon sources

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## Introduction

Macro- and micro-fungi play an essential ecological role as decomposers, while some of them are considered important nutrient-rich food. Additionally, many fungal species, including *Phellinus* sp. and *Sepedonium* sp., are highlighted for their medicinal value, exhibiting antimicrobial, antiviral, antioxidant or even antitumor properties. In this study, three mushrooms belonging to *Phellinus* sp., *Macrolepiota procera* and *Oudemanciella melanotricha*, and two microfungi strains, namely *Sepedonium* spp. C2812 and C2820, were examined regarding biomass production in submerged fermentations, using glucose and lactose as the carbon sources. Moreover, aqueous extracts of selected fungi were investigated for their antioxidant activity.

## Materials & Methods

### Solid-state fermentation (SSF)

- Potato dextrose agar (PDA) as the substrate
- Evaluation of growth rate

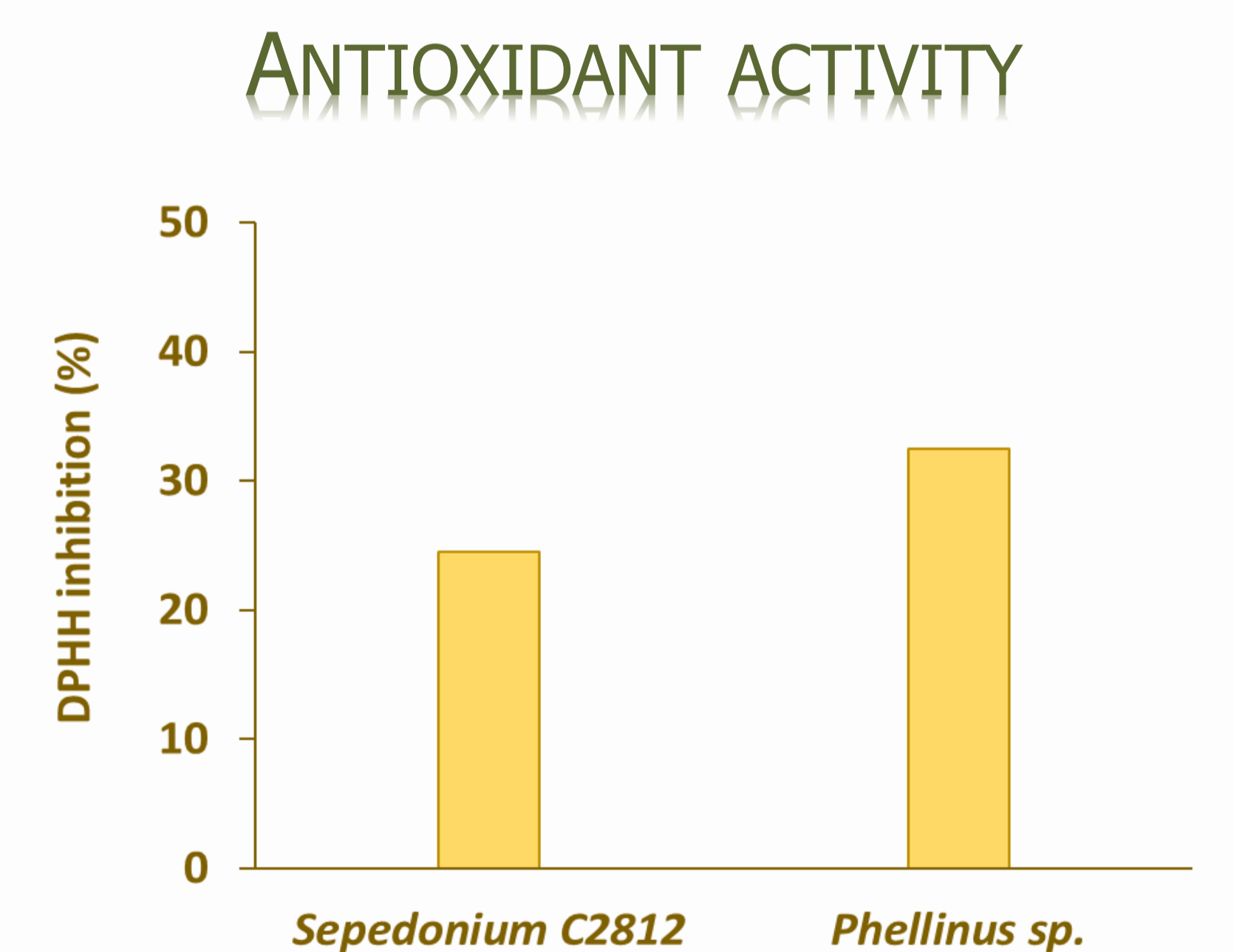
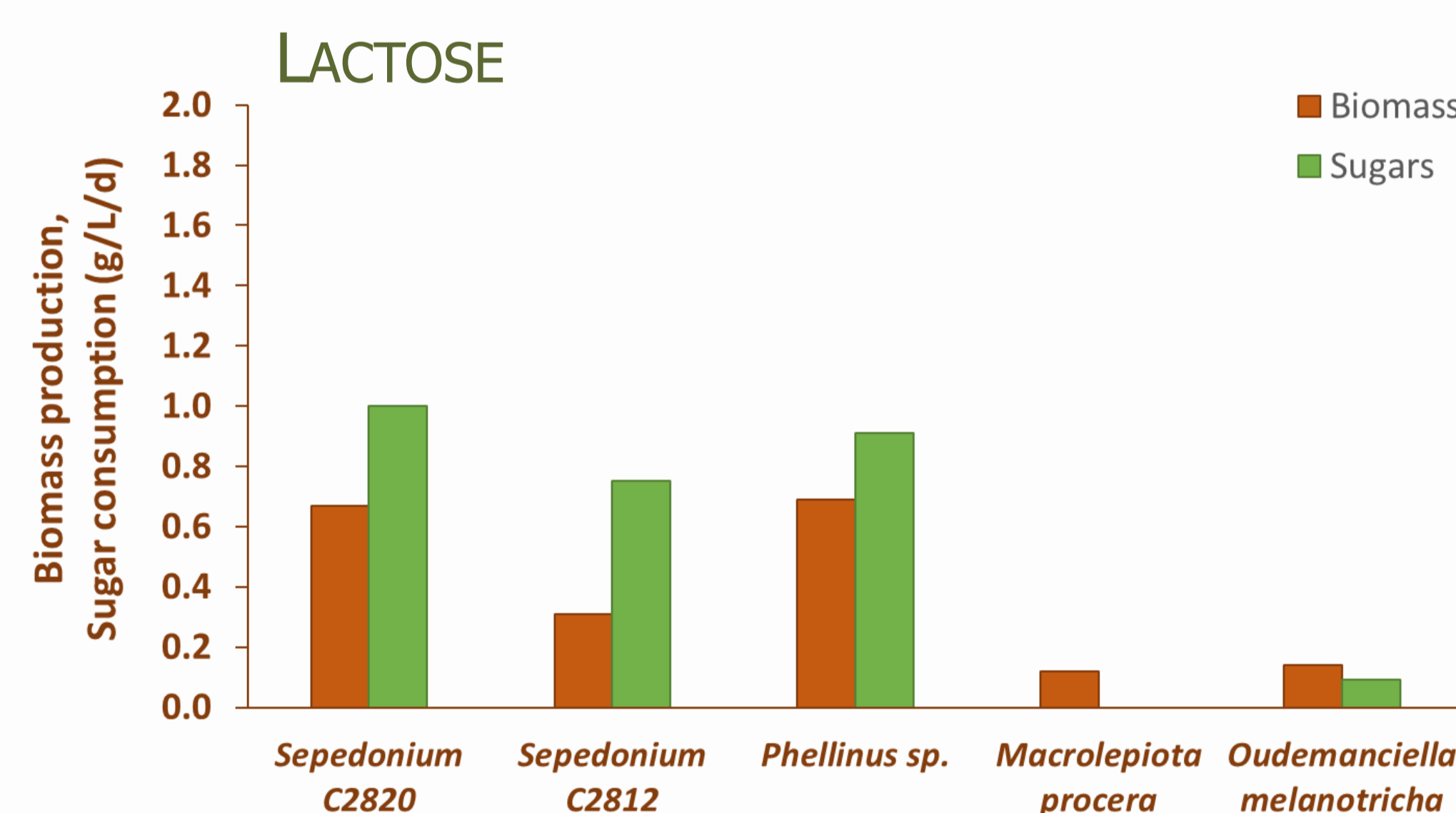
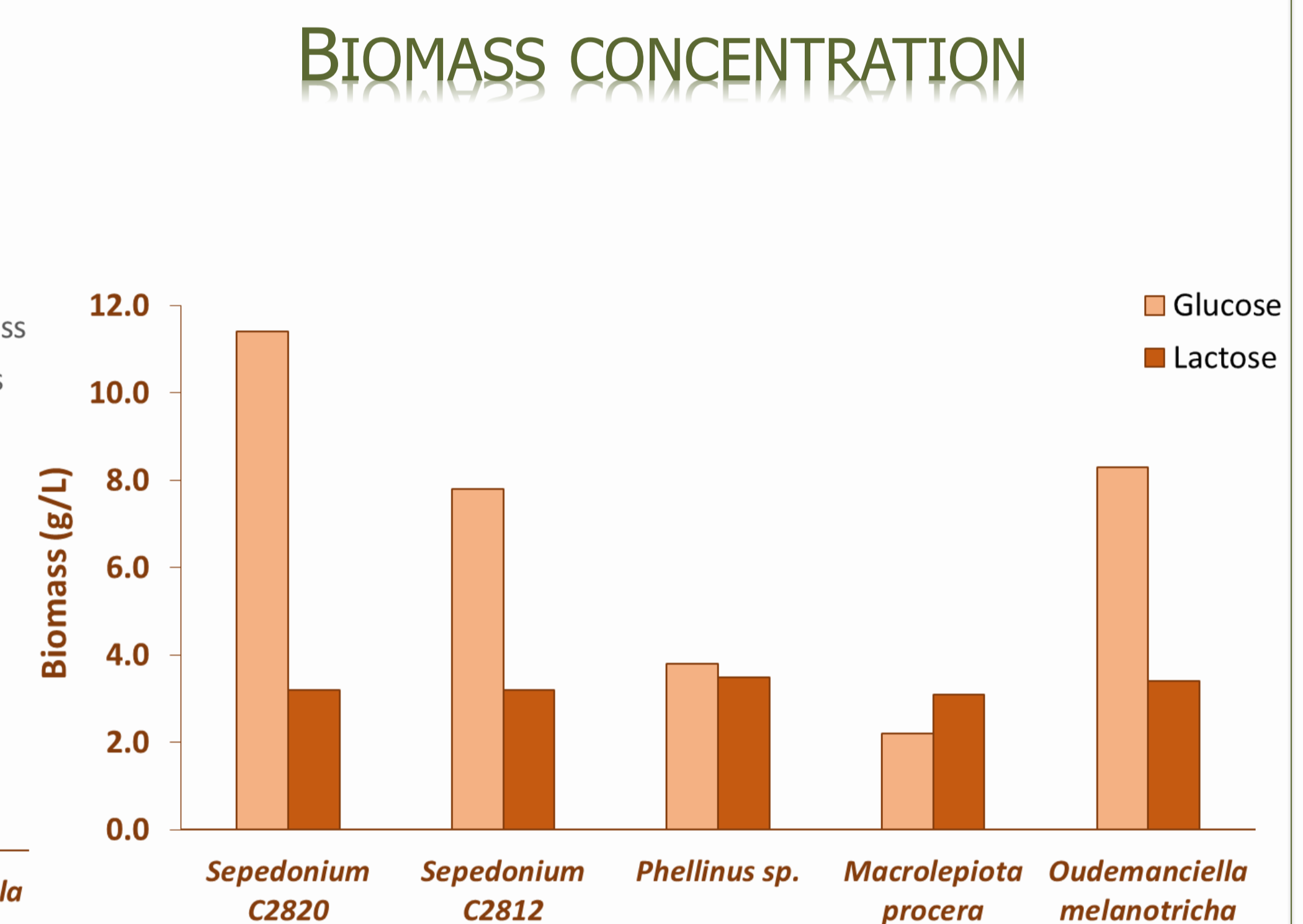
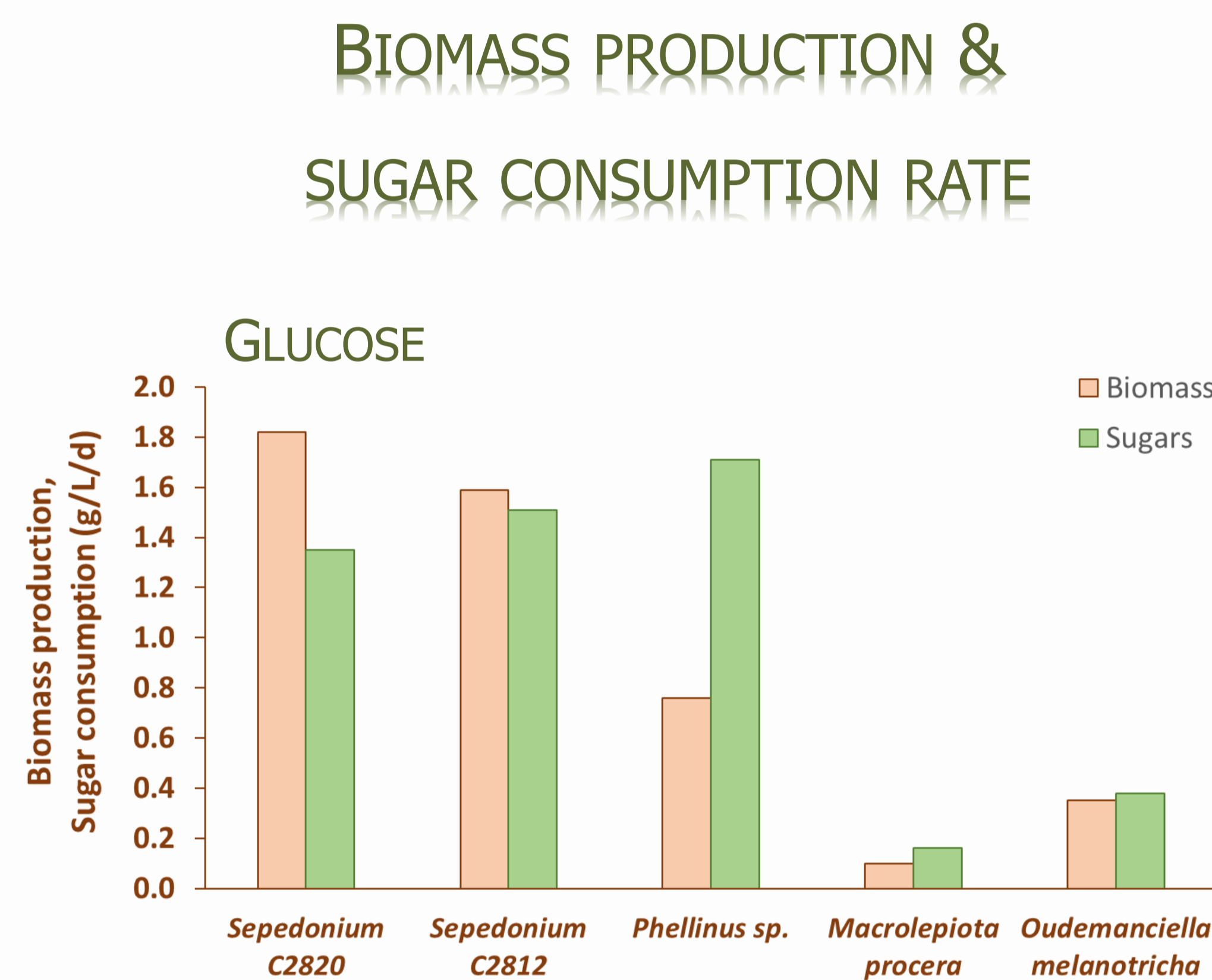
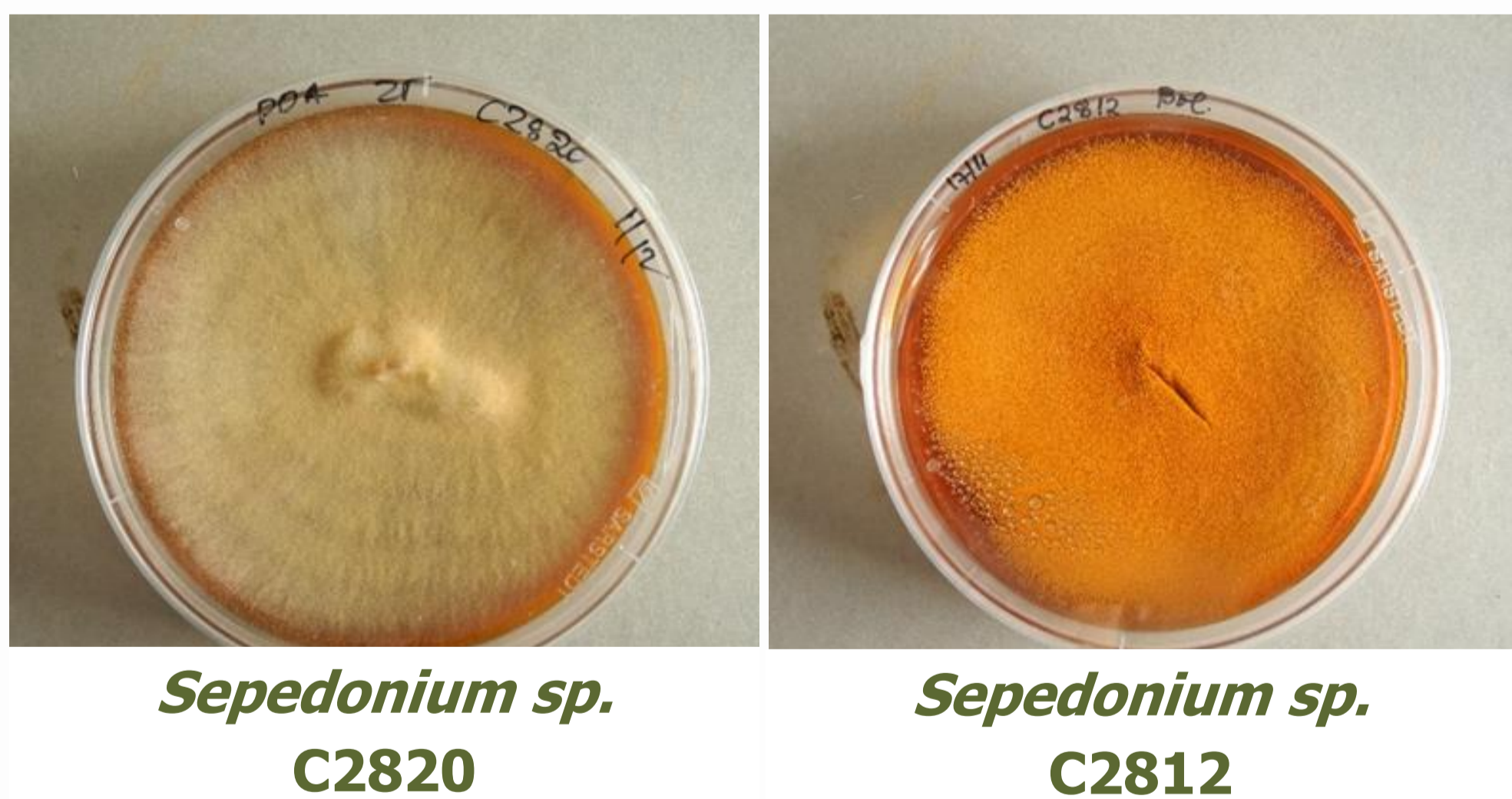
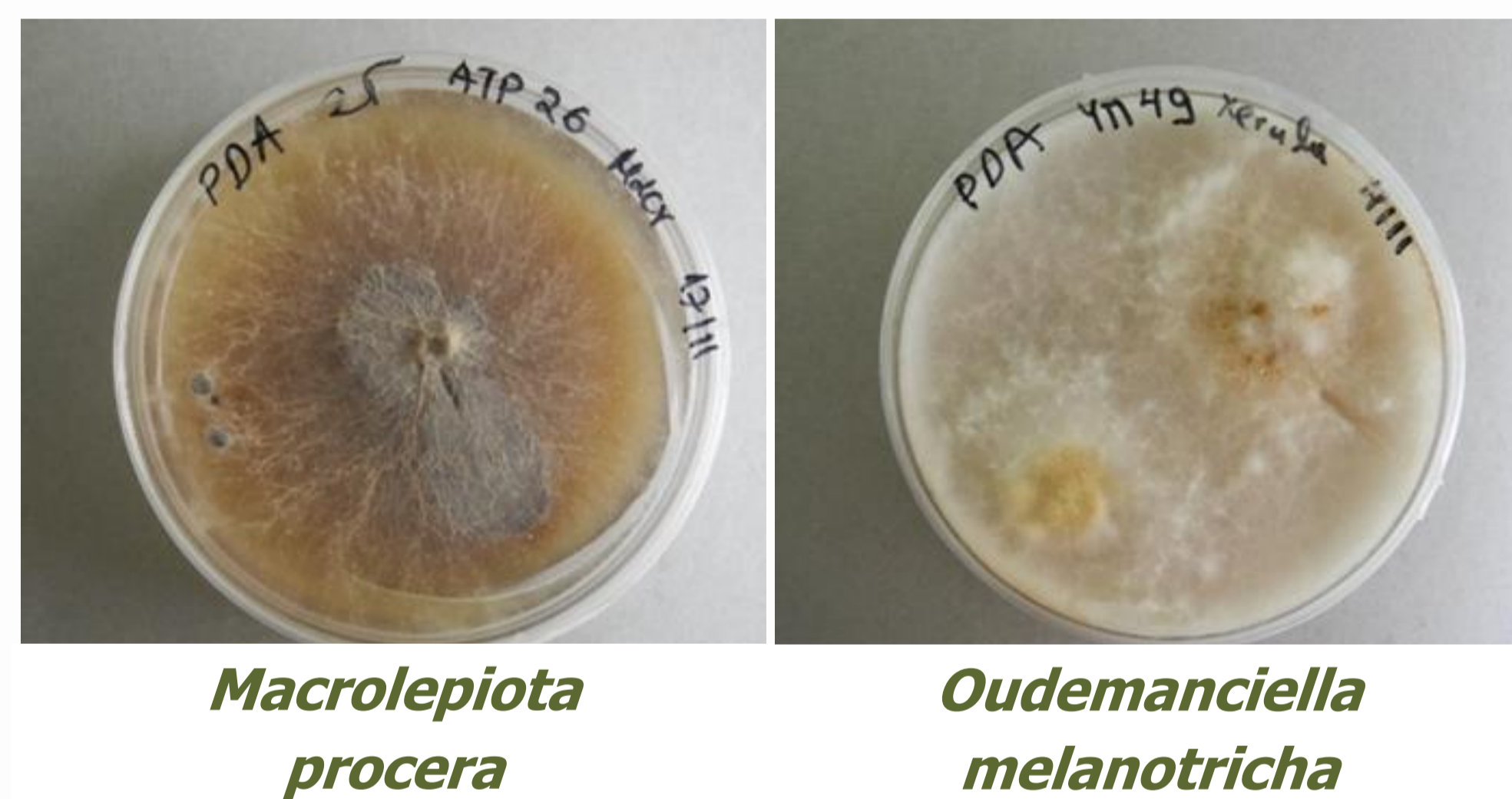
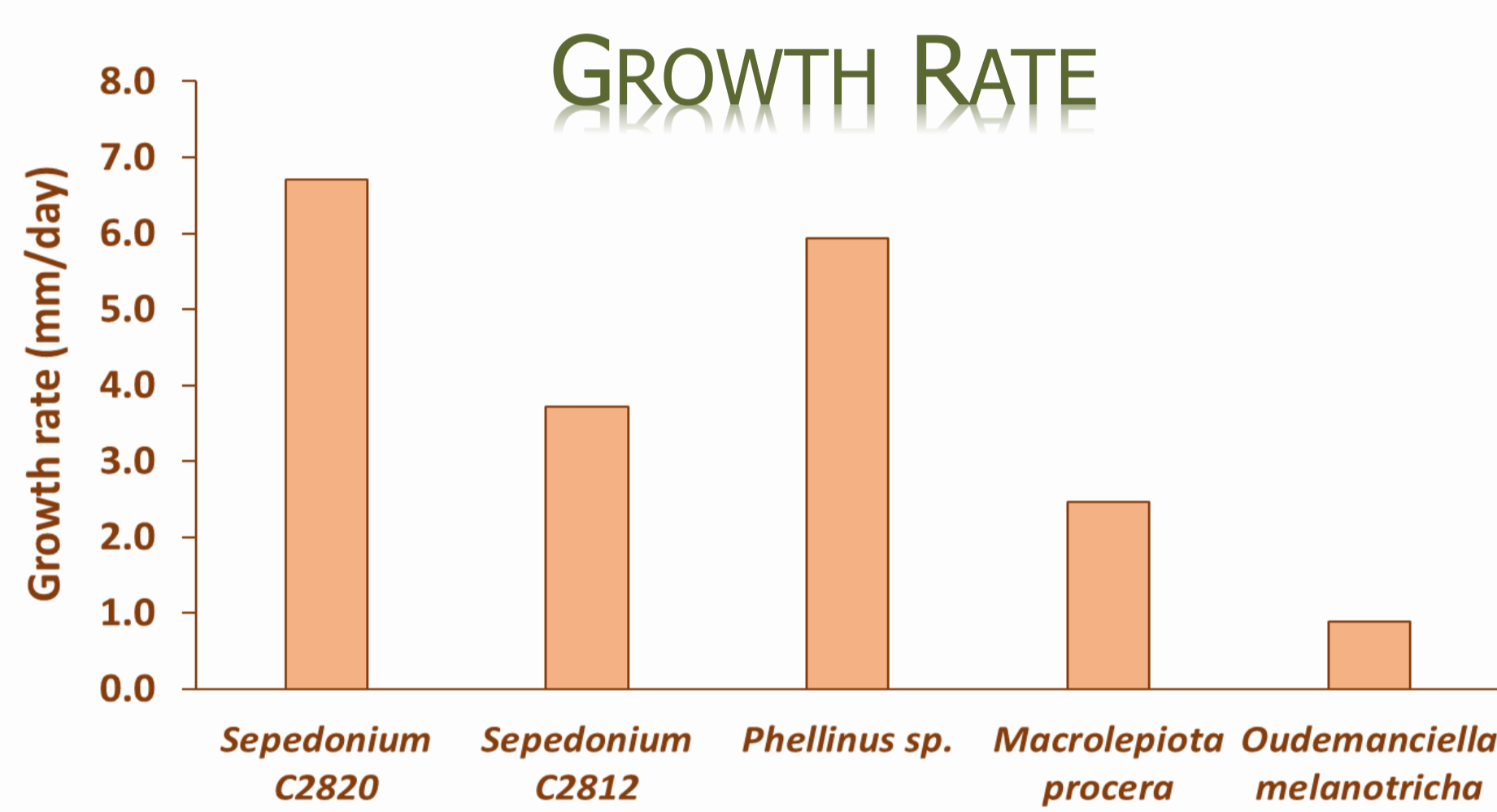


### Submerged fermentation (SmF)

- Glucose and lactose based media
- Evaluation of biomass production, sugar consumption
- Antioxidant activity of water soluble components derived from biomass



## Results & Discussion



## Conclusions

- ✓ Biomass concentration and production rate were considerably affected by the fungal strain and the substrate
- ✓ DPPH free radical was inhibited 24.5% and 32.5% by 20 mg/ml of *Sepedonium* C2812 and *Phellinus* sp. aqueous extract, respectively
- ✓ The results of the present study are encouraging for the bioconversion of glucose based industrial wastes to fungal biomass with bioactive value.

## Acknowledgements

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Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης