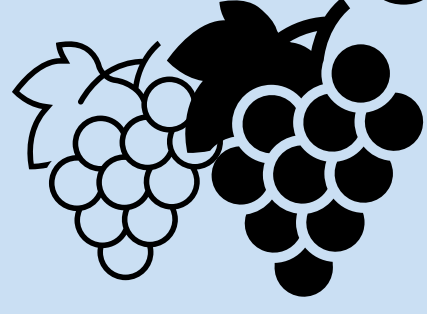


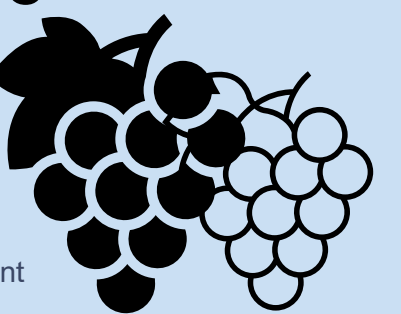
NEW MICROBIAL BIO-AGENTS (MBCAs) AND THEIR POTENTIAL IN CONTROLLING *Botrytis cinerea* DISEASE IN *Vitis vinifera*.



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INTRODUCTION

Addressing 21st-century agricultural challenges intensified by the growing population projected to reach 9.7 billion by 2050, necessitating to need to meet demand while reducing reliance on chemical phytosanitaries (FAO, 2017). *Vitis vinifera* crops are a key export of the agri-food industry in Spain. However, they are susceptible to phytopathogens, with *Botrytis cinerea* being responsible for grey mould and resulting in high economic losses (Pertot *et al.*, 2020). Additionally, ensuring the production of safe food presents another challenge (EFSA, 2020). This ecological alternatives to chemical pesticides have gained traction among the scientific community. Among them, Microbial Biocontrol Agents (MBCAs) control are postulated as an effective alternative (Ciliberti *et al.*, 2020).

OBJETIVE

Isolation and identification of potential mushrooms in the rhizosphere and roots of *Vitis vinifera*.

MATERIALS AND METHODS

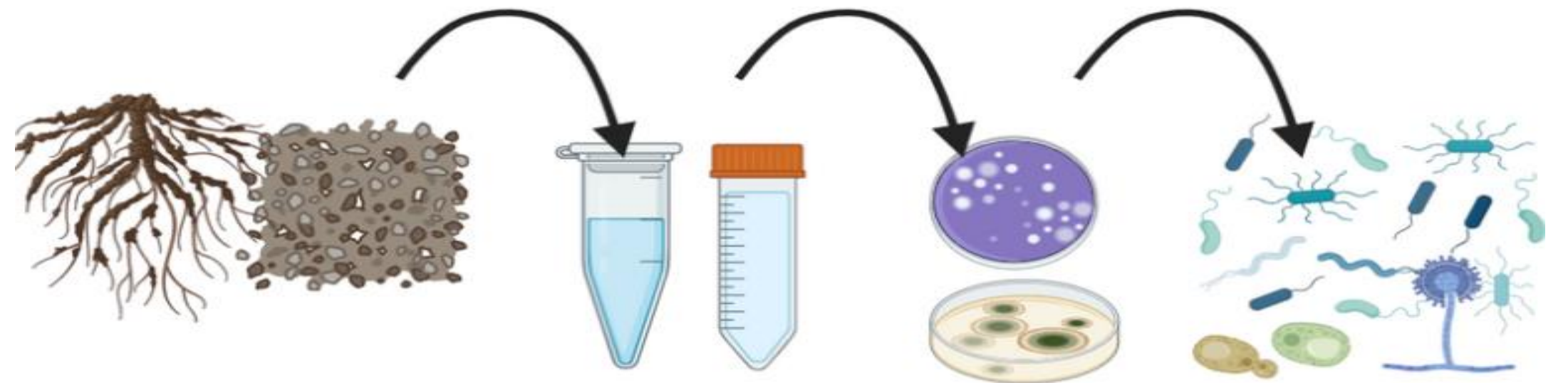


Figure 1. Microorganisms isolation assay.

RESULTS

1. Isolation of microorganisms from *Vitis vinifera*



Figure 2. Sampling was conducted in Mayorga (42°10'00"N 5°15'46"O).

2. Screening of the antagonist with the isolates

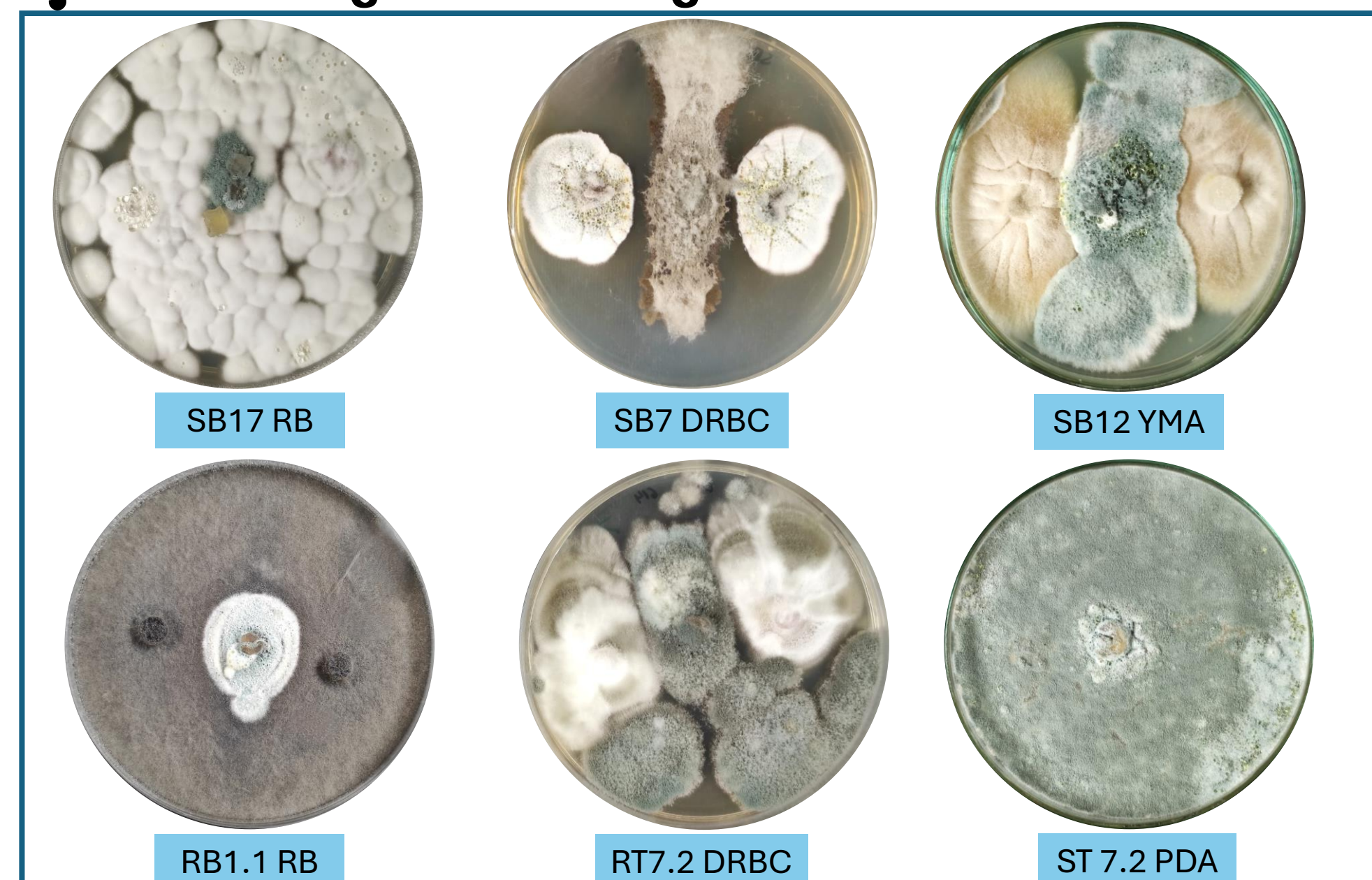


Figure 4. Antagonist assay against *Botrytis cinerea*. Isolates SB17RB, SB7DRBC, SB12YMA, RB1.1RB, and RT7.2 DRBC exhibit positive antagonist behaviour, while ST7.2PDA indicates negative antagonist behaviour.



Figure 3. Example of microorganism variety obtained. 10 different culture media used, resulting in 142 isolated fungi microorganisms.

CONCLUSION

Further research is needed to evaluate the effectiveness of these fungi as biocontrol agents under field conditions and their impact on grapes and wine quality.

FORTHCOMING GOALS

The next step will involve taxonomic identification of the best performing fungal microorganisms and studying their genetic potential using genetic analysis.

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