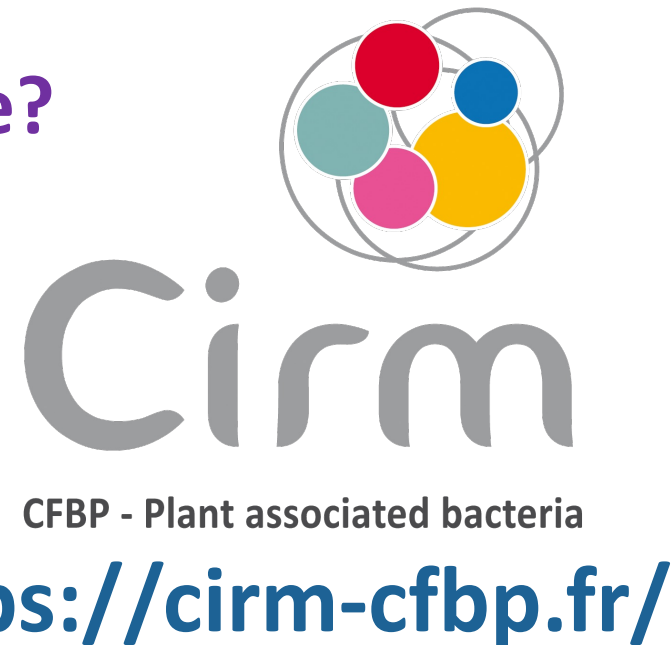


The French Collection for Plant-associated Bacteria was created in 1973 (CIRM-CFBP, <https://cirm-cfbp.fr/>) and preserves strategic resources for plant health. Among these resources, more and more bacteria are isolated from the native microbiota of many plant species, including strains isolated from seed microbiota.
From **user's needs** CIRM-CFBP developed **expertise** and services

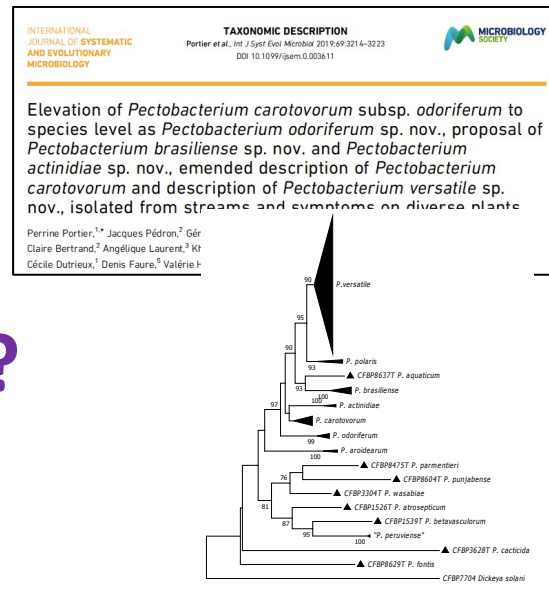
Can you preserve this strain for me?

Deposit service
→ Community benefits
→ Personal benefits
→ > 7200 public resources
Thank you to all contributors



Who is this strain?

Barcoding database
Genomes
Expertise in plant-pathogens
Diversity / taxonomy / identification



What can this strain do?

Metabolic exploration
Biolog
OmniLog

Infrastructures



Can I have this strain?

Database / Catalog
Regulation expertise
Acces and Benefit Sharing

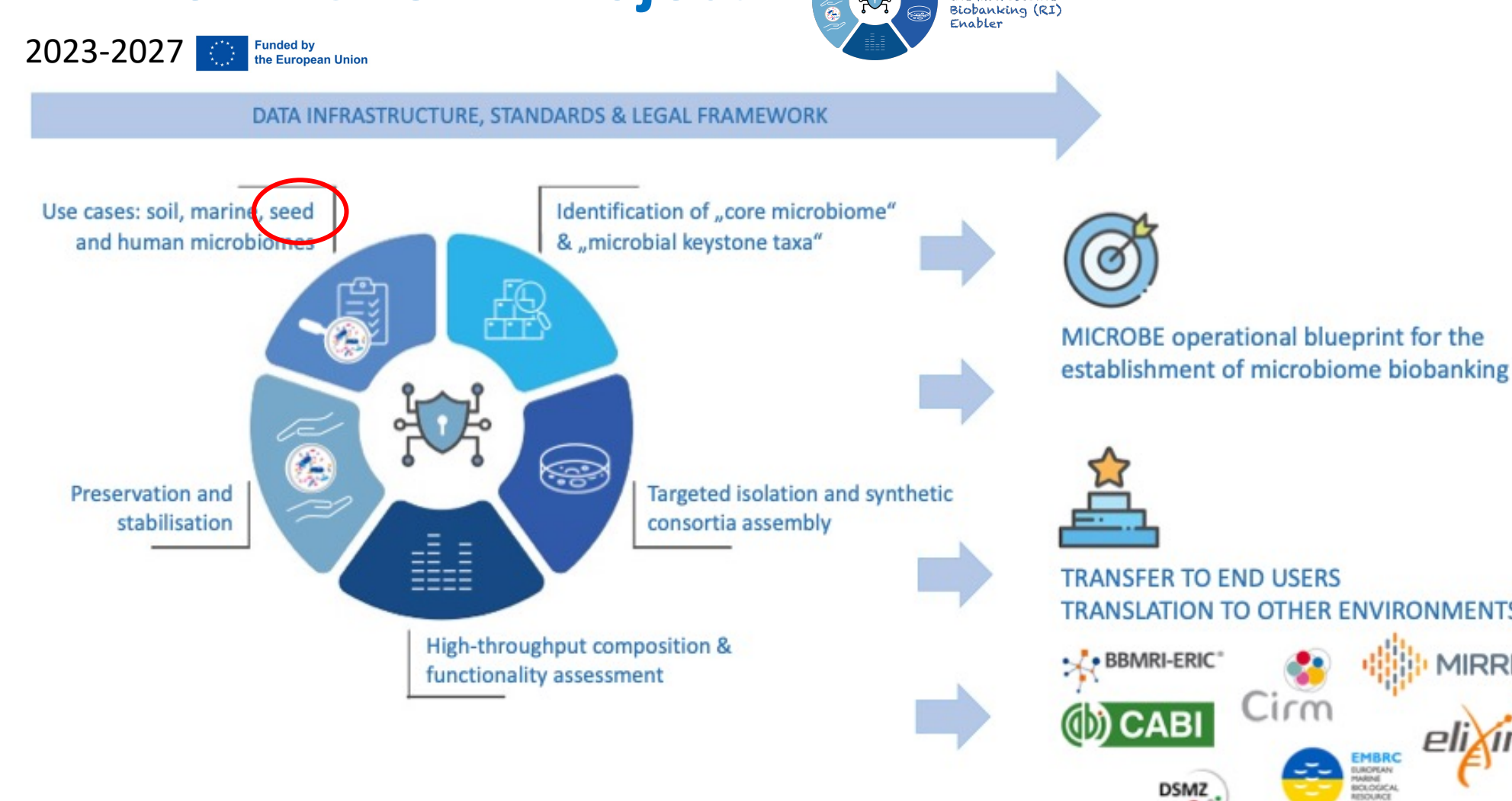
Quality of service



Preservation expertise

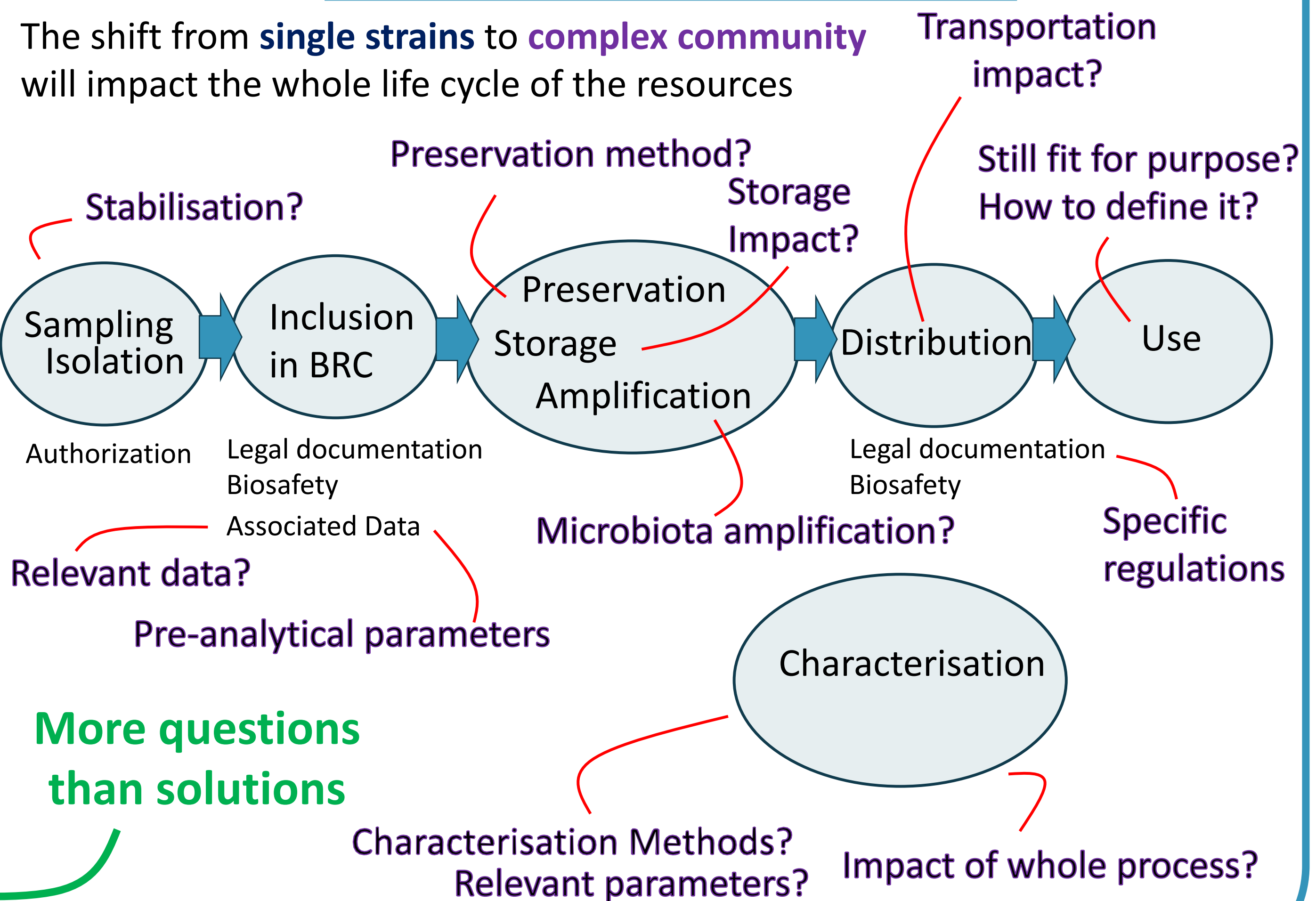
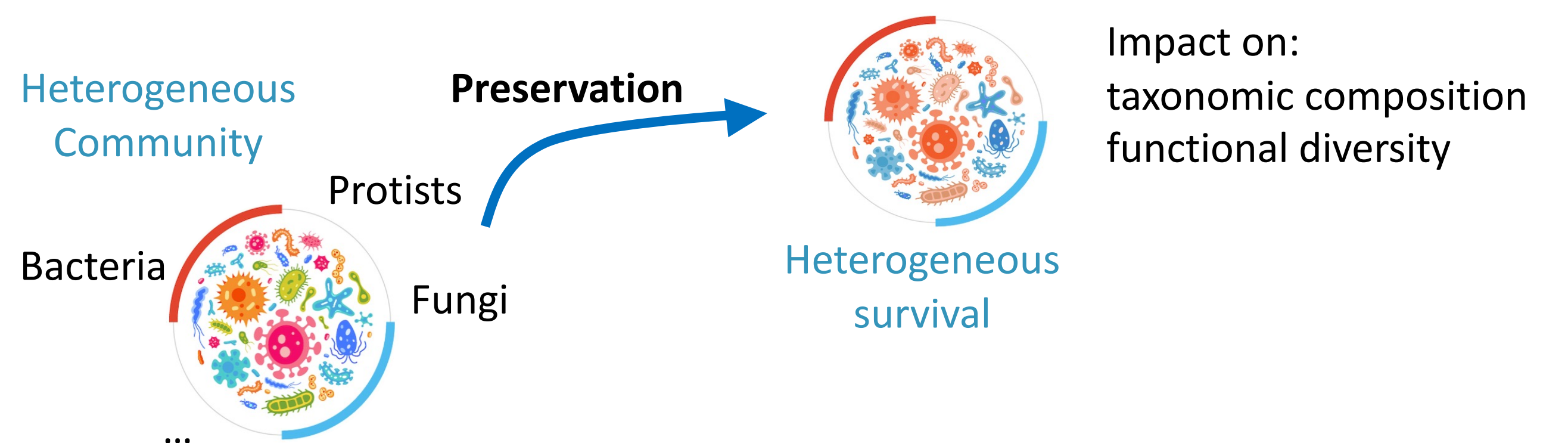
→ Lyophilisation
→ -80°C and liquid nitrogen storage

The MICROBE Project



... What about microbiomes?

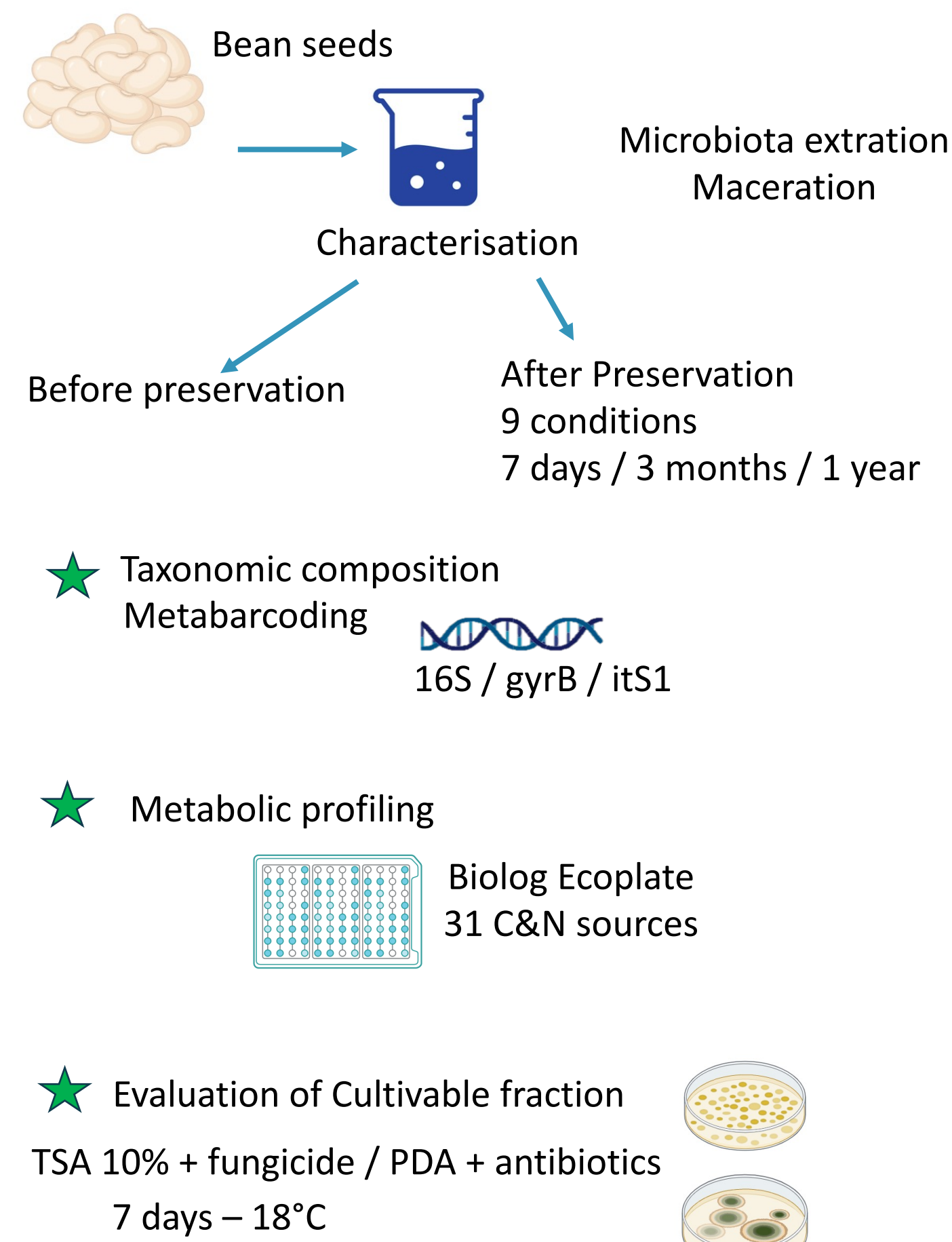
A challenge for Biological Resources Centers!



More questions
than solutions

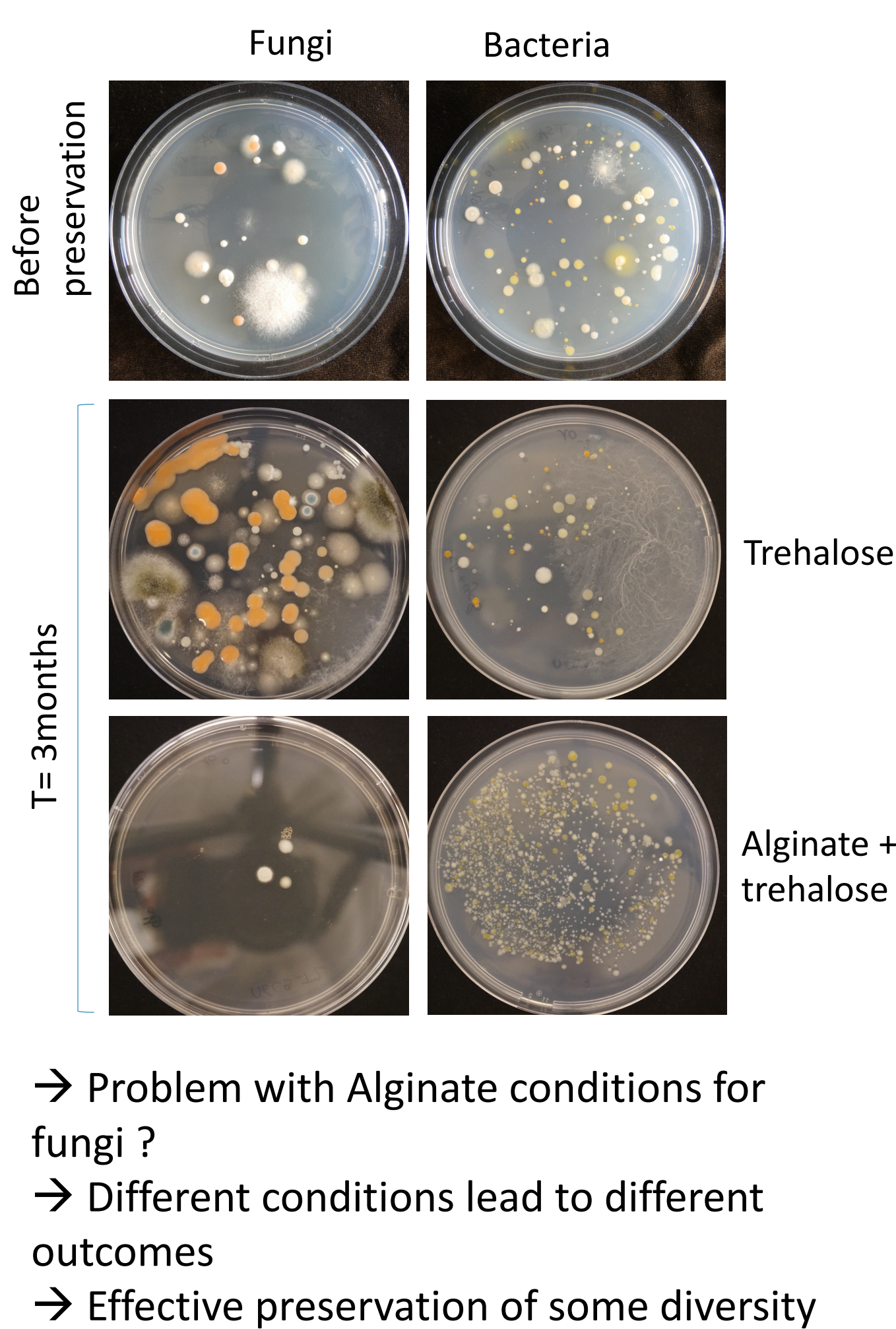
MICROBE Project The seed experiment

Tackling the questions of preservation methods and storage impact on seed microbiomes



First results

Cultivable Fraction

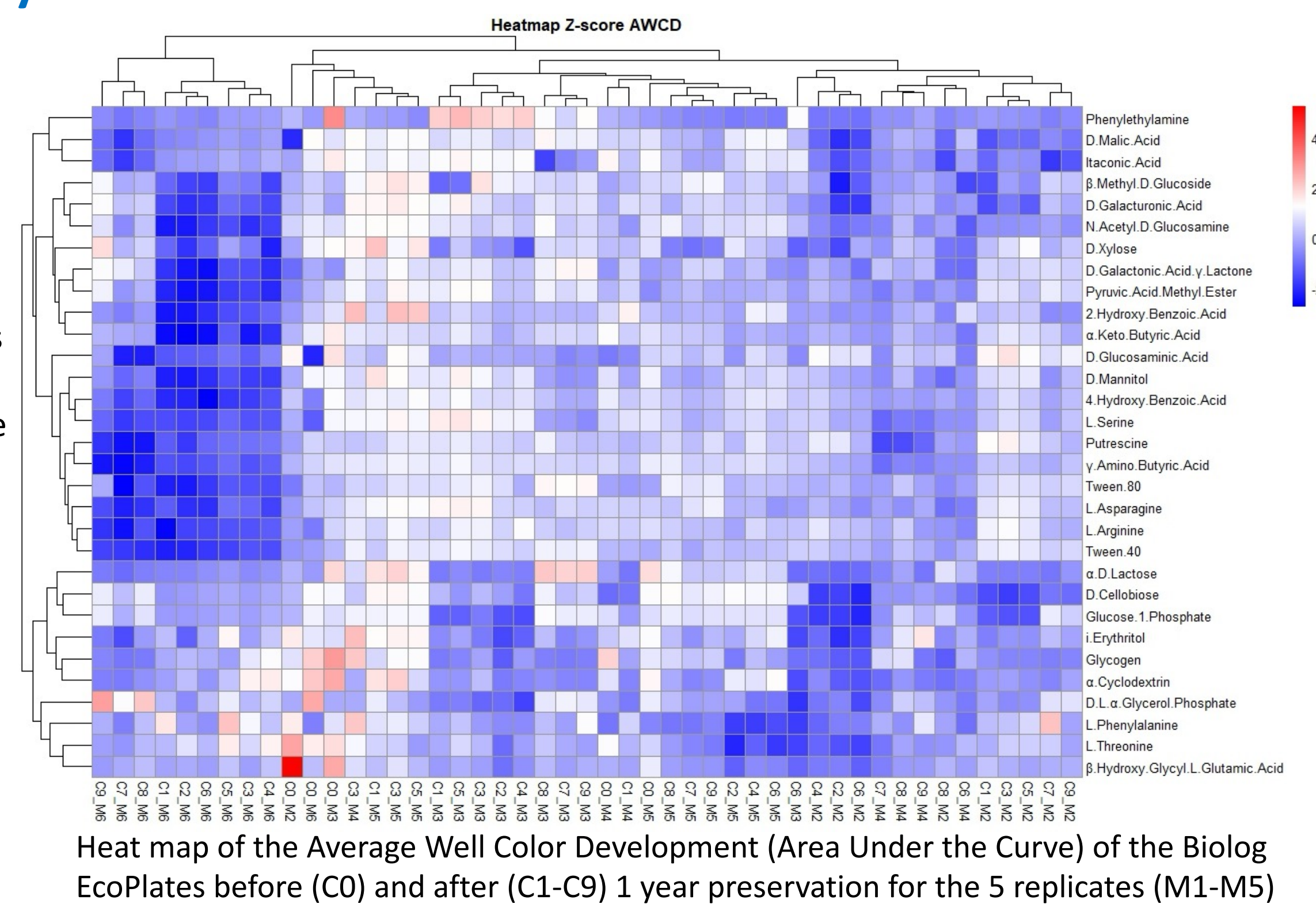


Taxonomic diversity Metabarcoding - 16S

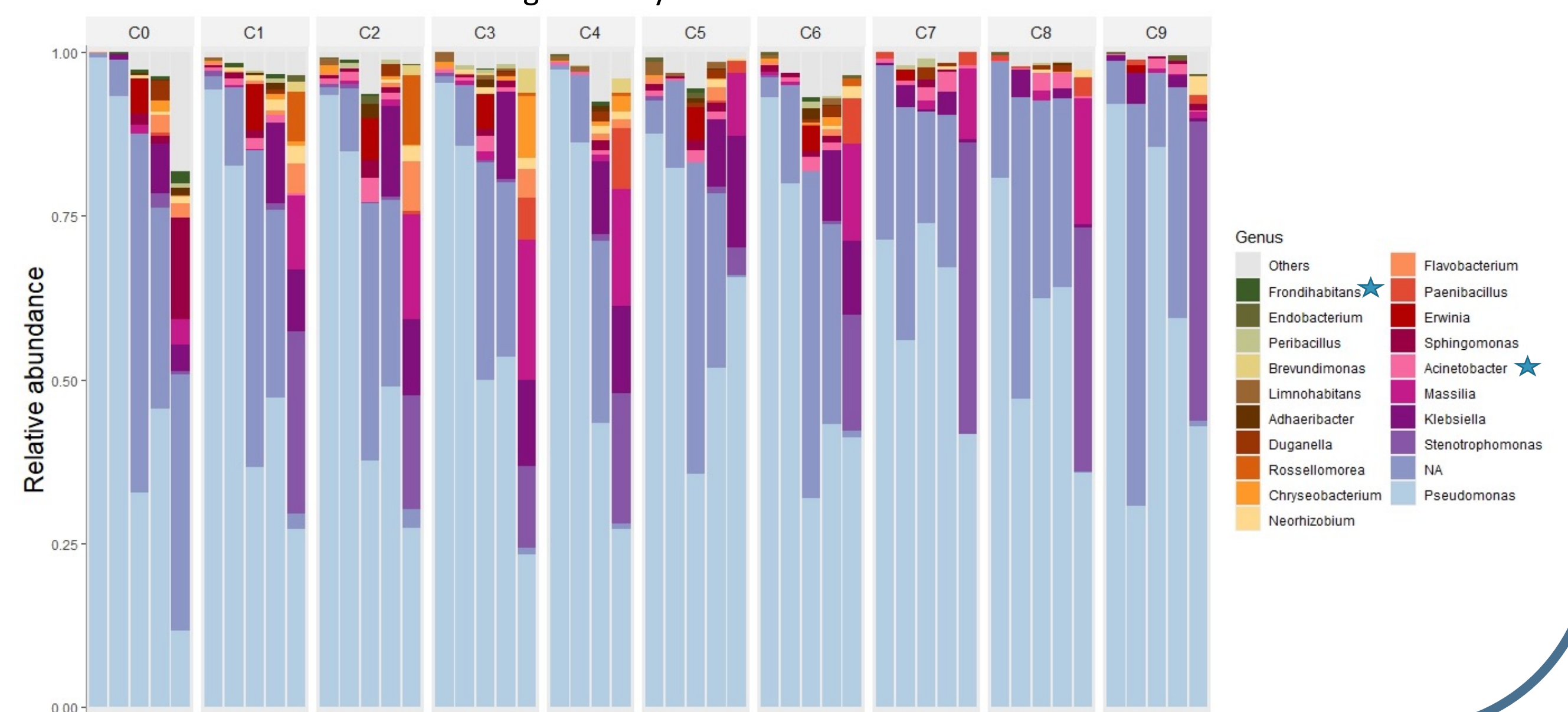
→ No significative effect of preservation time
→ No significative effect of preservation condition
→ Most observable variations linked to replicate
→ Genera *Fronthabitans* and *Acinetobacter* show abundances significantly different between conditions

Functional Diversity Biolog - Ecoplates

→ No significative effect of preservation time
→ No significative effect of preservation condition
→ Most observable variations linked to replicate
→ Some substrate show some significant reduced metabolism after preservation



Relative abundance of the 20 most abundant bacterial taxa detected by metabarcoding 16S



Conclusions - Perspectives

→ **Preservation of biodiverse samples can be achieved**
Cultivable fraction: biodiversity visible on plates
Biolog: metabolism mostly preserved
Metabarcoding: the major taxa persist after the preservation process

→ However, the observed variations are not significant and are more linked to the replicates than to the different experimental conditions.
Hence, the variability between samples has more impact than the preservation process itself.

→ The analysis of the dataset is still ongoing.
The metabarcoding results need to be confirmed with *its* and *gyrB* data
The cultivation has a strong effect which still needs to be assessed.

Recommendations for microbiome preservation

As there is randomness between samples we suggest to:
- Treat each sample as unique
- Preserve as many subsamples as possible. These are not replicable.
- Assess the metabolic and taxonomic diversity after preservation (this being not predictable from the initial diversity)

New ways to manage
biological resources
to be invented!