

# Deep dive into the role of coffee microorganisms on flavor generation during post-harvest processing

### Introduction

Epiphytic microorganisms are thought to be involved in flavor modulation of the final coffee cup, due to their activity during post-harvest processing

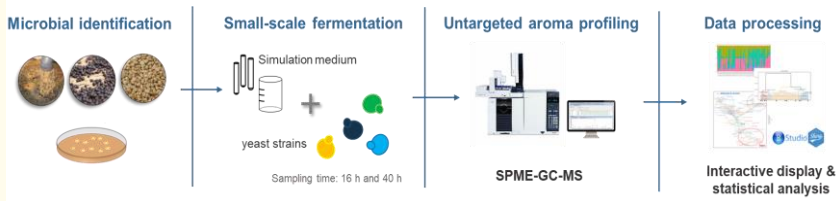


Figure 1: Native coffee starter culture screening process



### Materials/Methods

- On-farm microbial enumeration of Arabica wet, semi-dry and dry post-harvest processing as well as Robusta Dry processing
- Yeast identification via proteomic profiling and metabolic fingerprinting
- Model fermentation for volatile screening
- *In silico* data processing

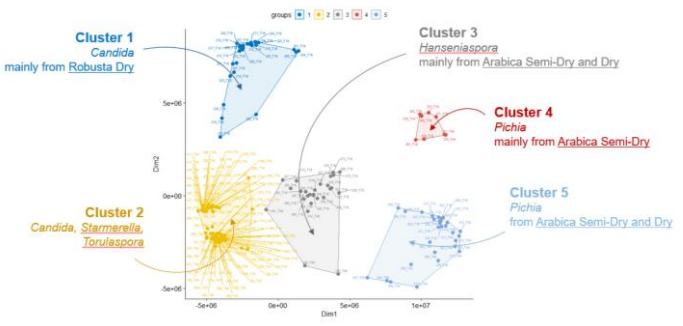


Figure 2: Flavor generation clustering of native coffee strains

### Results/Discussion

- Microbial community dynamics during coffee post-harvesting is strongly dependent on processing type and coffee variety
- With the focus on yeast strains, diverse flavor generation capabilities were identified
- Strain-level flavor generation in the model system showed variations within species and processing origins

### Conclusion/Perspectives

- The role of a subset of coffee microorganisms in flavor generation during various post-harvest processes was elucidated
- The methodology applied in this study can be used as a standard pipeline for the development of coffee starter cultures