How bacteria preserve the flavor of your morning coffee

When it comes to processing coffee beans, longer fermentation times can result in better taste, contrary to conventional wisdom. Lactic acid bacteria play an important, positive role in this process [according to a study]....published February 1 in Applied and Environmental Microbiology.

"A cup of coffee is the final product of a complex chain of operations: farming, post-harvest processing, roasting, and brewing," said principal investigator Luc De Vuyst, M.Sc., Ph.D., Professor of Industrial Microbiology and Food Biotechnology, Vrije Universiteit Brussel, Brussels, Belgium. "There are several variants of post-harvest processing, among which wet processing and dry processing are the most common." Wet processing — commonly used for Arabica and specialty coffees — is the step that includes fermentation.

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During extended fermentation, leuconostocs — a genus of lactic acid bacteria used in the fermentation of cabbage to sauerkraut and in sourdough starters — declined in favor of lactobacilli....Lactic acid bacteria were already present before fermentation, and these acid tolerant lactobacilli proliferated even more during this process.

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[We saw] see an impact of the microbial communities, in particular the lactic acid bacteria," said Dr. De Vuyst. They yielded fruity notes, and may have "had a protective effect toward coffee quality during fermentation....providing a stable microbial environment and hence preventing growth of undesirable micro-organisms that often lead to off-flavors," he said. Image credit: https://thecozycoffee.com/best-black-coffee/

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