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### Microbial identification of potato taste defect from rwandan coffee beans

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Coffee is a socio-economic important plant all over the world due to its exportation and how it provides income to the farmers and the country. However, Potato taste defect (PTD) affects the Rwandan coffee quality. The smell is reported to be caused by some microorganisms (bacteria), that is responsible for the offflavor and may also be caused by a pest. The aim of this study was to isolate, biochemically characterize and identify bacteria producing potato flavor from Rwandan coffee. Five samples were obtained from different regions (Nyamasheke and Nyakizu) of Rwanda. Bacteria were isolated and enumerated in the nutrient agar media followed by culture on nutrient and tryptic soy broth media. Bacteria were also cultured to several carbon sources such as Glucose, Fructose, Sucrose, Starch, Pectin and Galactose to smell the odor produced by those bacteria. DNA extraction of isolates was done and the resulting DNA strands was undergone three

steps of Polymerase Chain Reaction to be amplified using the Forward Primer (5'-AGAGTTTGATCCTGGCTCAG-3') and Reverse Primer (5'GGTTACCTTGTTACGACTT-3'). The identification of bacteria producing potato flavor from Rwandan coffee beans was done through 16S rDNA method followed by sequence analysis using finchtv software and BLAST. Earthy odor was the mostly produced on in all media and carbon sources but potato flavor was recorded mostly from damaged floaters and hand sorted damaged coffee beans. However, other odors such fruity and ferment were found in coffee beans to be produced by bacteria in coffee beans. The study came up by concluding the presence of different kind of bacteria including Enterobacteriaceae and Pantoea which are responsible for the formation of Isopropyl-2-methoxyl-3-pyrazine (IPMP) in coffee beans and cause the production the potato flavor

#### Biography

Ndayambaje Jean Bernard is a lecturer in the University of Rwanda. He holds PhD. of Technology in Industrial Biotechnology from Anna University and MSc. in Chemical engineering from Xiamen University. The first intention of his research orientation is in cloning technology, optimization and expression at small scale and large scale fermentation. Furthermore I'm International Membership in the Technical committee/RSB of Quality assurance of Pharmaceuticals and Quality Management System and also Associate editor in the journal of Genetic Engineering and Biotechnology and African Journal of Biotechnology.

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