**Processing of spent coffee grounds into Prebiotic Functional Oligosaccharides**

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This study aims at exploring the concept of transforming Spent coffee grounds into valuable prebiotics, contributing to both waste reduction and gut health improvement. An estimated 6-8 million tonnes of SCG are discarded globally every year, representing 30-40% of the total coffee bean weight [1]. This waste primarily ends up in landfills, contributing to methane emissions and environmental pollution. Diverting this waste stream is crucial for environmental sustainability. Coffee contains manno-oligosaccharides, galacto-oligosaccharides, arabinoxylan-oligosaccharides, and cello-oligosaccharides. Due to their crucial physicochemical and physiological characteristics, these oligosaccharides serve as prebiotics, antioxidants, dietary fiber, adjuvants, pharmaceuticals, nutraceutical foods, gut health, immune system boosters, cancer therapy, and many more applications [2].

To extract the prebiotic oligosaccharides different methods in a schematic way are used starting from dehydration, defatting of SCG to remove lipids [3],followed by the extraction using green methods like Ultrasonic method[4] and Microwave method [5] after that purification is carried out using filtration, centrifugation, and chromatographic techniques, followed by the characterization of the oligosaccharides including composition, degree of polymerization, and prebiotic activity using techniques like HPLC chromatography, mass spectrometry and using in vitro analysis.

The extraction process of prebiotic oligosaccharides from coffee spent ground is in process and experimental stages and the results of this study will be presented during the presentation at the conference

**References**

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