

Prebiotic Potential of Oligosaccharides derived from Wheat Bran

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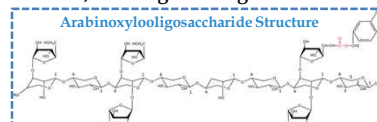
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Introduction

As it is well known, the human intestinal microbiota has significant effects on the host health, so that the interest in the maintenance of its balance and activity has fostered the research and development of new prebiotics and probiotics.

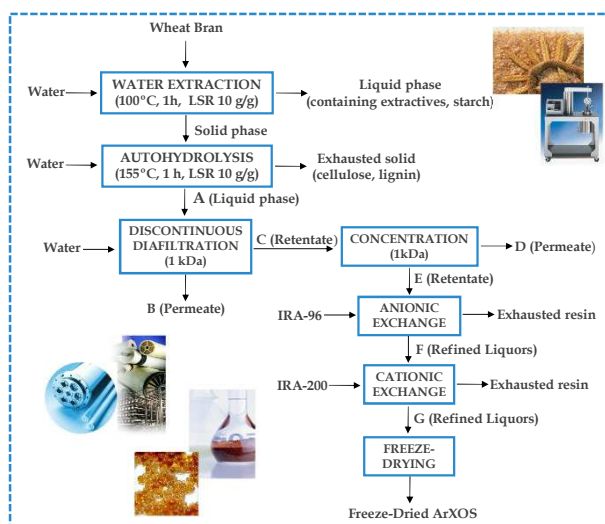
Non-Digestible Oligosaccharides (NDO) are the most known prebiotics. Oligosaccharides (OS) with prebiotic properties (including inulin, fructooligosaccharides (FOS), galactooligosaccharides (GaOS) and

lactulose) are commercially available, and many others are under study. From a nutritional point of view, arabinoxyloligosaccharides (AraXOS) behave as NDO and are classified as “emerging prebiotics” owing to their potential in this field, although strong additional scientific evidence is necessary.

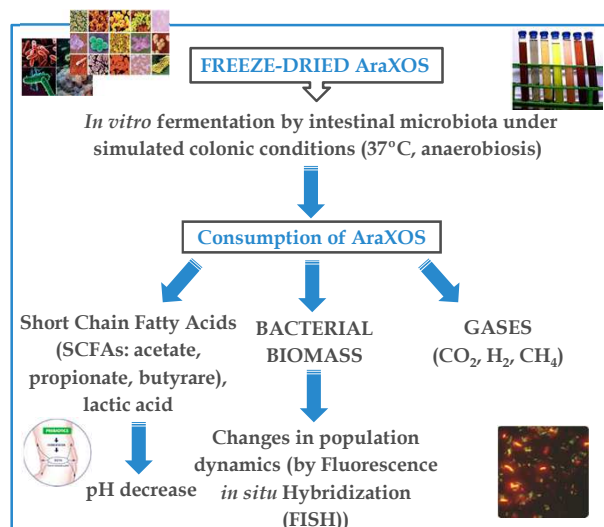


Methods

PROCESSING SCHEME FOR MANUFACTURING AraXOS

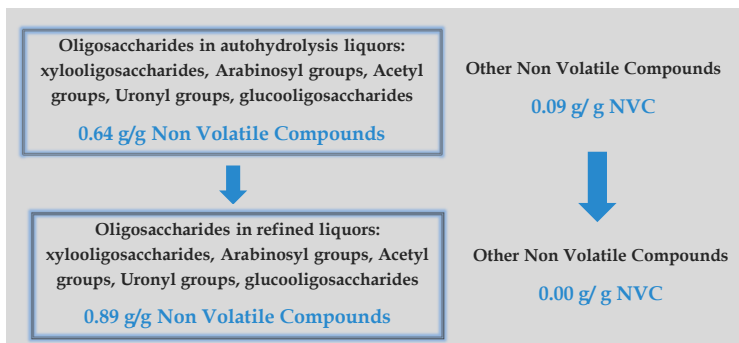


In vitro ASSESSMENT OF THE FERMENTABILITY BY HUMAN FAECAL INOCULA



Results

EFFECTS ACHIEVED WITH THE PURIFICATION SCHEME



STUDY OF *in vitro* FERMENTABILITY ON AraXOS MIXTURE

	% OS Consumption		
	Donor 1	Donor 2	Donor 3
9 h	36	66	41.3
12 h	68.5	79.2	64.8
33 h	86.8	89.5	90.7

	Total SCFA (mM)		
	Donor 1	Donor 2	Donor 3
9 h	36.1	70.4	45.0
12 h	64.7	86.7	70.8
33 h	86.3	99.7	98.9

	pH		
	Donor 1	Donor 2	Donor 3
0 h	7.2	7.3	7.3
9 h	6.7	6.2	7.1
12 h	5.4	5.5	6.6
33 h	5.2	5.4	5.4

Conclusions

Based on the obtained results, it can be concluded that the AraXOS concentrate generated by using an environment friendly technology can be considered as a potential prebiotic; however, more scientific evidence is needed to confirm that these oligosaccharides are prebiotics.

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