

Table S1. Composition dietary fiber fractions from pearl millet defatted whole grain flour (dry basis)

	% (SD) <sup>a</sup>	
	Soluble fraction	Insoluble fraction
Moisture	8.6 (0.8)	6.1 (0.1)
Ash	6.4 (0.1)	0.6 (0.4)
Protein	1.0 (0.2)	2.2 (0.1)
Lignin	-	17.1 (0.9)
Starch	0.5 (0.1)	1.2 (0.1)
Nonstarch polysaccharides <sup>b</sup>	84	73

<sup>a</sup> Values are the average of duplicate measurements. Standard deviation (SD) are presented on parenthesis

<sup>b</sup> Values for nonstarch polysaccharides content were estimated by difference [100- (Moisture % + Ash % + Protein % + Lignin % + Starch %) = NSPs]

Table S2. Mean of Firmicutes to Bacteroidetes ratios during incubations.

Time	Firmicutes/Bacteroidetes				
	Blank	FOS	MF	MMF	MEMF
0	1.6 (0.2) <sup>BCD</sup>				
6	1.2 (0.1) <sup>CDE</sup>	2.0 (0.1) <sup>AB</sup>	1.3 (0.1) <sup>CDE</sup>	1.1 (0.1) <sup>DE</sup>	2.5 (0.2) <sup>A</sup>
12	1.7 (0.0) <sup>BC</sup>	2.0 (0.1) <sup>AB</sup>	1.4 (0.1) <sup>BCDE</sup>	1.5 (0.0) <sup>BCD</sup>	2.0 (0.2) <sup>AB</sup>
24	1.8 (0.1) <sup>BC</sup>	1.5 (0.2) <sup>BCD</sup>	0.9 (0.0) <sup>E</sup>	1.0 (0.0) <sup>DE</sup>	1.2 (0.0) <sup>CDE</sup>

Data presented as mean value (S.E.), n=3, different letters indicate statistical differences of treatment groups using one-way ANOVA followed by Tukey's Post-hoc analysis. Ratios were calculated for each sample based on a rarefied dataset of 25,000 sequences per sample (fructooligosaccharides – FOS; native millet fiber – MF; microwave-treated millet fiber – MMF; microwave and enzymatically-treated millet fiber – MEMF).

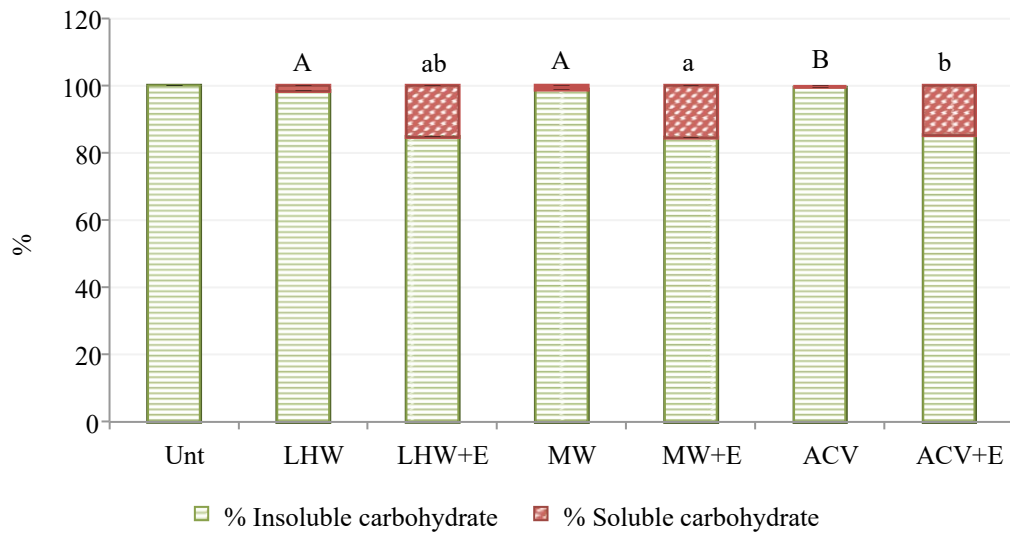


Fig. S1. Insoluble and soluble carbohydrate content of water-suspended pearl millet insoluble dietary fiber after hydrothermal treatments and enzymatic hydrolysis. Abbreviations: Unt = untreated insoluble dietary fiber; LHW = liquid hot water-treated insoluble dietary fiber; MW = microwave-treated insoluble dietary fiber; ACV = autoclave-treated insoluble dietary fiber; E = enzymatically hydrolyzed insoluble dietary fiber. Significant differences ( $P < 0.05$ ) are shown as letters above each column; upper case letters indicate differences between hydrothermal treatments; lower case letter indicate differences between hydrothermal + enzymatic treatment. Values are the averages of duplicate measurements

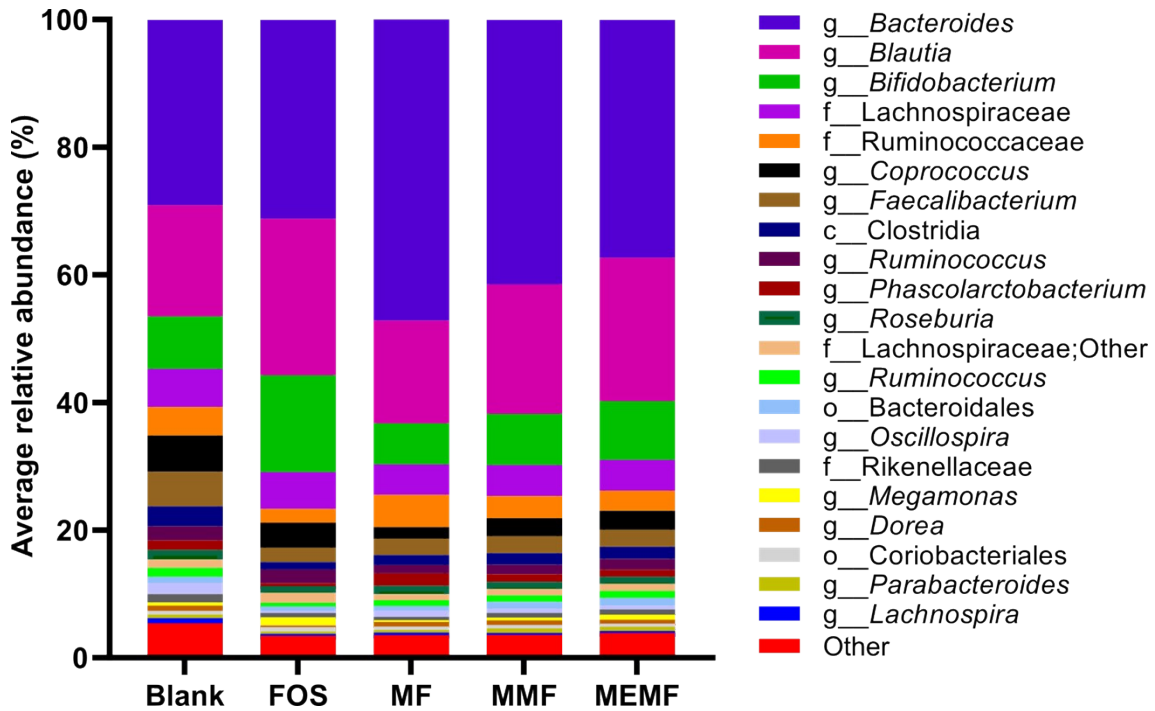


Fig. S2. Average relative abundance (%) of bacteria after 24 h *in vitro* fecal fermentation with fructooligosaccharides (FOS); native millet fiber (MF); microwave-treated millet fiber (MMF); microwave and enzymatically-treated millet fiber (MEMF); compared to the blank. Taxa were collapsed at the genus level and reported as the last classified taxonomic level (c, class; o, order; f, family; g, genus).