

## Effects of whole-grain cereals on fecal microbiota and short-chain fatty acids in dogs - A comparison of rye, oats and wheat

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**Supplementary Table S1:** Demographics of dogs participating in an experimental study on diets containing whole grain of rye, oats or wheat.

Dog nr	Breed	Age (years)	Sex	Weight (kg)	BCS
1	Lagotto romagnolo	9.7	F	11.4	4
2	Lagotto romagnolo	5	F	11.2	5
3	Mixed breed	8.4	MC	41.5	5
4	Mixed breed	5.2	MC	8.7	6
5	Border Collie	5.2	F	15.2	5
6	Lhasa Apso	9.7	MC	8.5	6
7	Nederlandse Kooikerhondje	1.5	M	9.9	5
8	Poodle medium size	8.1	F	7.5	5
9	Australian Kelpie	4.5	MC	18.9	5
10	Weimaraner, short-haired	7.5	FS	25.1	6
11	Nova Scotia Duck Tolling Retriever	2.6	M	20.2	5
12	Mixed breed	3.2	MC	29	4
13	Whippet	3.6	FS	14.4	5
14	Samoyed	6.2	F	29.4	5
15	Mixed breed	7.2	F	30	6
16	Labrador Retriever	3	FS	19.4	5
17	Xoloitzcuintle	3.4	F	10	5
18	Mixed breed	8.4	FS	20.7	6

Sex: F= female, FS= female spayed, M= male, MC= male castrated. BCS= body condition score.

**Supplementary Table S2.** Relative abundance, in % (means  $\pm$  SEM), of operational taxonomic units (OTU) with average relative abundance  $\geq$  0.1% and significant difference in main diet effect and genera with relative abundance  $\geq$  3% or significant difference in main diet effect.

Phylum	Family	Genus	Species	Relative abundance			<i>p</i> diet effect	<i>q</i> -value
				Wheat diet	Oat diet	Rye diet		
Firmicutes								
	Lachnospiraceae		Lachnospiraceae uncl.	0.37 $\pm$ 0.1 <sup>a</sup>	0.23 $\pm$ 0.04 <sup>ab</sup>	0.18 $\pm$ 0.05 <sup>b</sup>	0.0009	0.062
			Lachnospiraceae NK4A136 group	0.63 $\pm$ 0.1 <sup>a</sup>	0.41 $\pm$ 0.1 <sup>b</sup>	0.37 $\pm$ 0.1 <sup>b</sup>	0.008	0.16
			Lachnospiraceae NK4A136 group	0.57 $\pm$ 0.1 <sup>a</sup>	0.35 $\pm$ 0.1 <sup>b</sup>	0.31 $\pm$ 0.05 <sup>b</sup>	0.005	0.14
			Coprococcus sp. HPP0074	1.5 $\pm$ 0.3 <sup>a</sup>	1.1 $\pm$ 0.2 <sup>ab</sup>	0.95 $\pm$ 0.2 <sup>b</sup>	0.028	0.20
		Blautia		5.6 $\pm$ 0.6	4.8 $\pm$ 0.8	4.6 $\pm$ 0.6	0.10	0.22
			Blautia uncl.	1.9 $\pm$ 0.4 <sup>a</sup>	1.1 $\pm$ 0.2 <sup>b</sup>	1.2 $\pm$ 0.2 <sup>ab</sup>	0.013	0.15
			Blautia uncl.	0.87 $\pm$ 0.1 <sup>a</sup>	0.56 $\pm$ 0.1 <sup>b</sup>	0.65 $\pm$ 0.1 <sup>ab</sup>	0.035	0.20
	Veillonellaceae	Megamonas		2.9 $\pm$ 0.5	2.8 $\pm$ 0.6	4.9 $\pm$ 1.0	0.046	0.22
			Megamonas uncl.	2.8 $\pm$ 0.5	2.7 $\pm$ 0.6	4.7 $\pm$ 0.9	0.044	0.22
	Erysipelotrichaceae	Erysipelotrichaceae UCG-003		0.39 $\pm$ 0.2 <sup>a</sup>	1.3 $\pm$ 0.5 <sup>b</sup>	0.59 $\pm$ 0.3 <sup>ab</sup>	0.014	0.19
			Erysipelotrichaceae UCG-003 uncl.	0.39 $\pm$ 0.2 <sup>a</sup>	1.3 $\pm$ 0.5 <sup>b</sup>	0.58 $\pm$ 0.3 <sup>ab</sup>	0.015	0.15
		Catenibacterium		4.7 $\pm$ 1.6 <sup>a</sup>	8.7 $\pm$ 2.7 <sup>ab</sup>	9.4 $\pm$ 1.8 <sup>b</sup>	0.032	0.22
			Catenibacterium uncl.	4.6 $\pm$ 1.6 <sup>a</sup>	8.7 $\pm$ 2.7 <sup>ab</sup>	9.3 $\pm$ 1.7 <sup>b</sup>	0.033	0.20
	Peptostreptococcaceae	Peptoclostridium		8.4 $\pm$ 1.1	6.3 $\pm$ 1.1	6.8 $\pm$ 1.2	0.08	0.22
Bacteroidetes								
	Bacteroidaceae	Bacteroides		11.0 $\pm$ 0.9 <sup>a</sup>	11.8 $\pm$ 1.9 <sup>a</sup>	6.8 $\pm$ 1.2 <sup>b</sup>	0.003	0.11
			Bacteroides uncl.	0.79 $\pm$ 0.3 <sup>a</sup>	0.23 $\pm$ 0.1 <sup>b</sup>	0.21 $\pm$ 0.1 <sup>b</sup>	0.006	0.14
			Bacteroides coprocola	0.64 $\pm$ 0.1 <sup>a</sup>	0.44 $\pm$ 0.1 <sup>ab</sup>	0.33 $\pm$ 0.1 <sup>b</sup>	0.014	0.15
			Bacteroides stercoris	0.87 $\pm$ 0.6 <sup>a</sup>	0.87 $\pm$ 0.6 <sup>ab</sup>	0.18 $\pm$ 0.04 <sup>b</sup>	0.026	0.20
			Bacteroides vulgatus	0.85 $\pm$ 0.3 <sup>ab</sup>	2.7 $\pm$ 1.3 <sup>a</sup>	0.29 $\pm$ 0.1 <sup>b</sup>	0.031	0.20
			Bacteroides caecigallinarum	0.30 $\pm$ 0.1 <sup>a</sup>	0.13 $\pm$ 0.03 <sup>ab</sup>	0.06 $\pm$ 0.01 <sup>b</sup>	0.04	0.21
	Prevotellaceae	Prevotella_9		11.4 $\pm$ 2.3	9.5 $\pm$ 2.2	14.1 $\pm$ 3.0	0.098	0.22

		Alloprevotella	3.6±0.5	4.7±1.0	3.7±0.7	0.81	0.93
Fusobacteria							
	Fusobacteriaceae	Fusobacterium	13.7±1.9	14.5±2.0	13.4±2.7	0.58	0.70
		Fusobacteriales uncl.	7.0±1.3 <sup>a</sup>	10.9±1.6 <sup>b</sup>	6.0±1.2 <sup>a</sup>	0.008	0.14
Proteobacteria							
	Alcaligenaceae	Sutterella	3.2±0.5	3.0±0.6	4.4±0.9	0.20	0.34

Values on the same row without common superscript letters differ significantly ( $p < 0.05$ ) in post-hoc pairwise comparisons.  $q$ -value obtained from correction with false discovery rate (FDR) according to Benjamini-Hochberg.