

Table S2. Variation in the relative abundance of the bacterial phyla in the feces of horses 72 hours following treatments.

Phylum	Treatments	Time						Time	T*T
		T0	T8	T12	T24	T48	T72	P value	
Actinobacteria	WS	0.011	0.009	0.009	0.006	0.008	0.006 ^B	.014	.011
	WB	0.010	0.005	0.004	0.008	0.004	0.008 ^B		
	SS	0.012	0.009	0.007	0.013	0.055	0.023 ^B		
	SB	0.008 ^b	0.005 ^b	0.004 ^b	0.033 ^b	0.156 ^{ab}	0.201 ^{Aa}		
Bacteroidetes	WS	0.018	0.016	0.012	0.019	0.014 ^B	0.026 ^B	.013	<.001
	WB	0.019	0.027	0.020	0.019	0.035 ^B	0.028 ^B		
	SS	0.017	0.023	0.026	0.068	0.025 ^B	0.025 ^B		
	SB	0.021 ^b	0.030 ^b	0.002 ^b	0.001 ^b	0.218 ^{Aa}	0.184 ^{Aa}		
Euryarcheota	WS	0.054	0.040	0.061 ^A	0.022	0.021	0.016 ^A	.001	.006
	WB	0.050	0.020	0.030 ^A	0.039	0.001	0.040 ^A		
	SS	0.036	0.015	0.019 ^A	0.011	0.012	0.049 ^A		
	SB	0.035 ^a	0.030 ^a	0.134 ^{Bc}	0.025 ^a	0.003 ^b	<0.001 ^{Bb}		
Firmicutes	WS	0.446	0.443	0.354 ^B	0.397 ^B	0.376	0.342	<.001	<.001
	WB	0.333	0.288	0.288 ^B	0.348 ^B	0.347	0.339		
	SS	0.306	0.325	0.363 ^B	0.440 ^B	0.511	0.364		
	SB	0.362 ^c	0.330 ^c	0.732 ^{Aab}	0.906 ^{Aa}	0.592 ^{bc}	0.530 ^{bc}		
Proteobacteria	WS	0.004	0.003	0.001	0.006 ^B	0.002	0.003	.006	.050
	WB	0.009	0.008	0.009	0.006 ^B	0.002	0.008		
	SS	0.010 ^b	0.006 ^b	0.009 ^b	0.059 ^{Aa}	0.018 ^{ab}	0.009 ^b		
	SB	0.002	0.002	0.001	0.002 ^B	0.008	0.004		
Spirochaetes	WS	0.029	0.030	0.035	0.028	0.027	0.040 ^A	.002	<.001
	WB	0.022	0.028	0.024	0.018	0.039	0.030 ^A		
	SS	0.026	0.024	0.018	0.011	0.017	0.011 ^A		
	SB	0.017 ^a	0.047 ^a	0.006 ^b	0.002 ^b	0.001 ^b	<0.001 ^{Bb}		

WS = water-saline; WB = water-buffer; SS = starch-saline; SB = starch-buffer. T*T = interaction treatment/time. T0 – before gastric administration of water or starch; T8 - 08h; T12 - 12h; T24 - 24h; T48 - 48h; T72 - 72h. The means are represented: different lowercase letters on the same line, and different uppercase letters in the same column differed statistically ($p<0.05$; Tukey's test).

Table S3. Variation in the relative abundance of the bacterial families in the feces of horses 72 hours following treatments.

Family	Treatment	Time						Time	T*T
		T0	T8	T12	T24	T48	T72	P value	
Bifidobacteriaceae	WS	<0.001	<0.001	<0.001	<0.001	<0.001 ^B	<0.001 ^B	.015	.020
	WB	<0.001	<0.001	<0.001	<0.001	<0.001 ^B	<0.001 ^B		
	SS	<0.001	<0.001	<0.001	0.007	0.050 ^B	0.015 ^B		
	SB	<0.001 ^b	<0.001 ^b	<0.001 ^b	0.031 ^b	0.146 ^{Aa}	0.195 ^{Aa}		
Erysipelothricaceae	WS	<0.001	0.001	0.001	0.001	0.001 ^B	0.001 ^B	.001	<.001
	WB	0.002	0.002	0.003	0.003	0.001 ^B	0.002 ^B		
	SS	0.001	0.001	0.002	0.005	0.007 ^B	0.004 ^B		
	SB	0.001 ^b	<0.001 ^b	<0.001 ^b	0.002 ^b	0.185 ^{Aa}	0.180 ^{Aa}		
Eubacteriaceae	WS	0.015	0.021	0.015 ^A	0.014 ^A	0.015 ^A	0.013	<.001	<.001
	WB	0.020	0.014	0.012 ^A	0.017 ^A	0.018 ^A	0.014		
	SS	0.016 ^a	0.018 ^a	0.017 ^{Aa}	0.006 ^{Bb}	0.006 ^{Bb}	0.013 ^a		
	SB	0.017 ^a	0.014 ^a	0.003 ^{Bb}	0.004 ^{Bb}	0.003 ^{Bb}	0.010 ^{ab}		
Lachnospiraceae	WS	0.097	0.124	0.090 ^A	0.112 ^A	0.097 ^A	0.111 ^A	.017	<.001
	WB	0.117	0.100	0.085 ^A	0.109 ^A	0.088 ^A	0.134 ^A		
	SS	0.103	0.100	0.133 ^A	0.146 ^A	0.076 ^A	0.085 ^A		
	SB	0.111 ^a	0.099 ^a	0.019 ^{Bb}	0.006 ^{Bb}	0.032 ^{Bb}	0.026 ^{Bb}		
Lactobacillaceae	WS	<0.001	0.001	<0.001	<0.001 ^B	0.002 ^B	0.001	<.001	<.001
	WB	0.005	0.004	0.003	0.007 ^B	0.036 ^B	0.015		
	SS	0.004 ^b	0.006 ^b	0.004 ^b	0.073 ^{Bb}	0.233 ^{Aa}	0.046 ^b		
	SB	0.002 ^b	0.001 ^b	0.050 ^b	0.254 ^{Aa}	0.096 ^{Aa}	0.055 ^b		
Methanobacteriaceae	WS	0.052	0.037	0.057 ^A	0.019	0.016 ^A	0.013 ^A	.002	.003
	WB	0.046	0.017	0.027 ^A	0.037	0.019 ^A	0.037 ^A		
	SS	0.031	0.012	0.013 ^A	0.009	0.012 ^A	0.049 ^A		
	SB	0.031 ^a	0.025 ^a	0.130 ^{Bc}	0.022 ^a	0.002 ^{Bb}	<0.001 ^{Bb}		

Prevotellaceae									
WS	0.017	0.015	0.012	0.018	0.014 ^B	0.025 ^B	.038	.004	
WB	0.017	0.025	0.018	0.015	0.031 ^B	0.026 ^B			
SS	0.015	0.020	0.024	0.062	0.021 ^B	0.017 ^B			
SB	0.018 ^b	0.029 ^b	0.002 ^b	<0.001 ^b	0.175 ^{Aa}	0.128 ^{Aa}			
Ruminococcaceae									
WS	0.109	0.133	0.115 ^A	0.122 ^A	0.105 ^A	0.112 ^A	<.001	<.001	
WB	0.132	0.119	0.126 ^A	0.130 ^A	0.083 ^A	0.118 ^A			
SS	0.122	0.140	0.129 ^A	0.100 ^A	0.071 ^A	0.125 ^A			
SB	0.112 ^a	0.099 ^b	0.014 ^{Bb}	0.002 ^{Bb}	0.001 ^{Bb}	0.007 ^{Bb}			
Spirochaetaceae									
WS	0.029	0.030	0.035 ^A	0.028 ^A	0.027 ^A	0.040 ^A	.002	<.001	
WB	0.022	0.028	0.024 ^A	0.018 ^A	0.039 ^A	0.030 ^A			
SS	0.026	0.024	0.018 ^A	0.011 ^A	0.017 ^A	0.011 ^A			
SB	0.017 ^a	0.047 ^a	0.006 ^{Bb}	0.002 ^{Bb}	0.001 ^{Bb}	<0.001 ^{Bb}			
Streptococcaceae									
WS	0.171	0.120	0.097 ^B	0.111 ^B	0.113	0.066	<.001	<.001	
WB	0.014	0.009	0.012 ^B	0.031 ^B	0.088	0.015			
SS	0.019	0.022	0.038 ^B	0.069 ^B	0.073	0.030			
SB	0.081 ^b	0.074 ^b	0.633 ^{Aa}	0.625 ^{Aa}	0.187 ^b	0.226 ^b			

WS = water-saline; WB = water-buffer; SS = starch-saline; SB = starch-buffer. T*T = interaction treatment/time. T0 – before administration (starch overload and/or buffer); T8 – 8 hours administration; T12 – 12 hours after administration; T24 – 24 hours after administration; T48 – 48 hours after administration; T72 – 72 hours after administration. The means are represented: different lowercase letters on the same line, and different uppercase letters in the same column differed statistically ($p<0.05$; Tukey's test).

Table S4. Variation in the relative abundance of the bacterial genera in the feces of horses 72 hours following treatments.

Genus	Treatments	Time						Time	T*T
		T0	T8	T12	T24	T48	T72	P value	
Bifidobacterium	WS	<0.001	<0.001	<0.001	<0.001	<0.001 ^B	<0.001 ^B	.016	.021
	WB	<0.001	<0.001	<0.001	<0.001	<0.001 ^B	<0.001 ^B		
	SS	<0.001	<0.001	<0.001	0.001	0.050 ^B	0.015 ^B		
	SB	<0.001 ^b	<0.001 ^b	<0.001 ^b	0.030 ^b	0.146 ^{Aa}	0.194 ^{Aa}		
Clostridium_III	WS	0.026	0.027	0.024 ^A	0.022 ^A	0.022 ^A	0.024 ^A	<.001	<.001
	WB	0.025	0.020	0.022 ^A	0.023 ^A	0.014 ^A	0.023 ^A		
	SS	0.025 ^a	0.028 ^a	0.023 ^{Aa}	0.012 ^{Ab}	0.011 ^{Ab}	0.019 ^{Aa}		
	SB	0.026 ^a	0.022 ^a	0.003 ^{Bb}	<0.001 ^{Bb}	<0.001 ^{Bb}	<0.001 ^{Bb}		
Clostridium_XIVa	WS	0.051	0.070	0.054 ^A	0.061 ^A	0.056 ^A	0.072 ^A	<.001	<.001
	WB	0.067	0.065	0.053 ^A	0.058 ^A	0.055 ^A	0.077 ^A		
	SS	0.047	0.056	0.061 ^A	0.068 ^A	0.032 ^A	0.038 ^A		
	SB	0.061 ^a	0.065 ^a	0.008 ^{Bb}	0.002 ^{Bb}	0.002 ^{Bb}	0.006 ^{Bb}		
Erysipelotrichaceae*	WS	<0.001	<0.001	<0.001	<0.001	<0.001 ^B	<0.001 ^B	.002	<.001
	WB	0.001	0.001	0.001	0.002	<0.001 ^B	<0.001 ^B		
	SS	0.001	<0.001	0.001	0.002	0.005 ^B	0.003 ^B		
	SB	0.001 ^b	<0.001 ^b	<0.001 ^b	0.002 ^b	0.183 ^{Aa}	0.173 ^{Aa}		
Eubacterium	WS	0.015	0.020	0.015 ^A	0.014 ^A	0.015 ^A	0.013	<.001	<.001
	WB	0.019	0.014	0.011 ^A	0.017 ^A	0.018 ^A	0.014		
	SS	0.016 ^a	0.018 ^a	0.016 ^{Aa}	0.006 ^{Bb}	0.006 ^{Bb}	0.013 ^a		
	SB	0.017 ^a	0.014 ^a	0.003 ^{Bb}	0.003 ^{Bb}	0.003 ^{Bb}	0.010 ^a		
Lachnospiraceae*	WS	0.022	0.030	0.020 ^A	0.021 ^A	0.024 ^A	0.024 ^A	.027	.002
	WB	0.025	0.020	0.019 ^A	0.028 ^A	0.017 ^A	0.033 ^A		
	SS	0.028	0.023	0.034 ^A	0.035 ^A	0.018 ^A	0.027 ^A		
	SB	0.027 ^a	0.019 ^a	0.006 ^{Bb}	0.002 ^{Bb}	0.003 ^{Bb}	0.008 ^{Bb}		
Lactobacillus	WS	<0.001	0.001	0.001	0.001 ^B	0.002 ^B	0.001	<.001	.001
	WB	0.005	0.004	0.003	0.007 ^B	0.036 ^B	0.015		
	SS	0.004 ^b	0.006 ^b	0.004 ^b	0.073 ^{Bab}	0.233 ^{Aa}	0.046 ^b		
	SB	0.002 ^b	0.001 ^b	0.050 ^b	0.254 ^{Aa}	0.095 ^{Aab}	0.055 ^b		
Methanobrevibacter	WS	0.052	0.036	0.057 ^A	0.019	0.016 ^A	0.013 ^A	.002	.003
	WB	0.046	0.017	0.027 ^A	0.037	0.009 ^A	0.037 ^A		
	SS	0.031	0.012	0.013 ^A	0.009	0.012 ^A	0.049 ^A		
	SB	0.031 ^a	0.025 ^a	0.130 ^{Bc}	0.022 ^a	0.002 ^{Bb}	<0.001 ^{Bb}		
Prevotella	WS	0.015	0.013	0.010	0.016	0.013 ^B	0.023 ^B	.031	.003
	WB	0.015	0.023	0.016	0.014	0.031 ^B	0.020 ^B		
	SS	0.015	0.019	0.023	0.062	0.021 ^B	0.016 ^B		
	SB	0.014 ^b	0.021 ^b	0.002 ^b	<0.001 ^b	0.175 ^{Aa}	0.128 ^{Aa}		
Ruminococcaceae*	WS	0.037	0.051	0.047 ^A	0.049 ^A	0.046 ^A	0.045 ^A	<.001	.001
	WB	0.062	0.056	0.061 ^A	0.069 ^A	0.037 ^A	0.057 ^A		
	SS	0.059	0.066	0.061 ^A	0.062 ^A	0.037 ^A	0.061 ^A		
	SB	0.049 ^a	0.047 ^a	0.008 ^{Bb}	0.001 ^{Bb}	0.001 ^{Bb}	0.004 ^{Bb}		
Ruminococcus	WS	0.025	0.035	0.025 ^A	0.032 ^A	0.016 ^A	0.023 ^A	<.001	.050
	WB	0.015	0.017	0.014 ^A	0.009 ^A	0.011 ^A	0.012 ^A		
	SS	0.012 ^a	0.015 ^a	0.016 ^{Aa}	0.003 ^{Bb}	0.003 ^{Bb}	0.005 ^{Bb}		
	SB	0.014 ^a	0.013 ^a	0.001 ^{Bb}	<0.001 ^{Bb}	<0.001 ^{Bb}	<0.001 ^{Bb}		
Streptococcus	WS	0.171	0.120	0.099 ^B	0.110 ^B	0.099	0.066	<.001	.001
	WB	0.014	0.009	0.011 ^B	0.031 ^B	0.088	0.015		
	SS	0.019	0.022	0.038 ^B	0.069 ^B	0.073	0.030		
	SB	0.081 ^b	0.074 ^b	0.633 ^{Aa}	0.625 ^{Aa}	0.187 ^b	0.126 ^b		
Treponema	WS	0.029	0.030	0.035	0.028 ^A	0.027 ^A	0.040 ^A	.002	<.001
	WB	0.022	0.028	0.024	0.018 ^A	0.039 ^A	0.030 ^A		
	SS	0.026	0.024	0.018	0.011 ^A	0.017 ^A	0.011 ^A		

SB	0.017 ^a	0.027 ^a	0.016 ^a	0.002 ^{Bb}	0.001 ^{Bb}	<0.001 ^{Bb}
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WS = water-saline; WB = water-buffer; SS = starch-saline; SB = starch-buffer. T*T = interaction treatment/time T0 – before gastric administration of water or starch; T8 - 08h; T12 - 12h; T24 - 24h; T48 - 48h; T72 - 72h. The means are represented: different lowercase letters on the same line, and different uppercase letters in the same column differed statistically ($p < 0.05$; Tukey's test).

*Genus not identified belonging to Family mentioned.