

Table S1. Chemical composition of fiber sources in the diets.

Chemical composition (g/kg DM)	Wheat flour	Rye bran	Vitacel WF 600
DM (g/kg as-fed basis)	864	906	938
Ash	2	53	n.m.
Protein (N × 6.25)	139	213	n.m.
HCL fat		34	n.m.
Available carbohydrates	788	187	n.m.
Sugars	20	67	n.m.
Starch	768	120	n.m.
Dietary fiber ⁹	39	537	1000
Total NSP (soluble NSP)	30 (14)	433 (57)	1000
NCP glucose	3	76	71
Cellulose	2	45	717
AX (soluble AX)	18 (9)	283 (42)	168 (n.m.)
A:X (soluble A:X)	0.80 (0.80)	0.52 (0.56)	0.09 (n.m.)
Fructans	0	32	n.m.
Klason lignin	9	72	n.m.

Abbreviations: DM, dry matter; NSP, non-starch polysaccharides; NCP, non-cellulosic polysaccharides; AX, arabinoxylan; A:X, arabinose:xylose ratio; n.m., not measured.

Table S2. Pool size of total, individual short chain fatty acids (SCFA) and total branched chain fatty acids (BCFA) in different intestinal segments and large intestine of pigs fed with refined wheat fiber diet (Control), rye bran diet with (RB+) and without antibiotic treatment (RB-).

Pool size, mmol	Segment	Diet ¹			SEM	P-value ²		
		Control	RB-	RB+		Diet	Segment	Diet × Segment
SCFA	SI3	13 ^g	19 ^{fg}	15 ^{fg}	7.8	<0.001	<0.001	<0.001
	Caecum	45 ^{cdef}	54 ^{cde}	38 ^{cdefg}				
	Co1	145 ^a	75 ^{bc}	70 ^{bcd}				
	Co2	84 ^b	51 ^{cdef}	44 ^{cdefg}				
	Co3	69 ^{bcd}	33 ^{defg}	29 ^{efg}				
Acetate	SI3	7.3 ^f	12 ^{ef}	9.5 ^{ef}	4.9	<0.001	<0.001	<0.001
	Caecum	31 ^{cde}	31 ^{cdef}	21 ^{cdef}				
	Co1	98 ^a	43 ^{bc}	41 ^{bcd}				
	Co2	55 ^b	30 ^{cdef}	25 ^{cdef}				
	Co3	40 ^{bcd}	19 ^{def}	16 ^{ef}				
Propionate	SI3	0.40 ^f	0.31 ^f	0.20 ^f	1.7	<0.001	<0.001	<0.001
	Caecum	9.8 ^{cde}	11 ^{bcde}	8.5 ^{cde}				
	Co1	30 ^a	15 ^{bc}	14 ^{bcd}				
	Co2	18 ^b	11 ^{bcde}	9.0 ^{cde}				
	Co3	14 ^{bcde}	7.0 ^{edf}	6.2 ^{ef}				
Butyrate	SI3	0.47 ^e	1.14 ^e	0.43 ^e	1.2	0.169	<0.001	<0.001
	Caecum	2.3 ^{de}	9.4 ^a	4.3 ^{bcde}				
	Co1	12 ^a	11 ^a	11 ^a				
	Co2	9.0 ^{ab}	7.7 ^{abc}	6.4 ^{abcd}				
	Co3	8.2 ^{abc}	4.2 ^{bcde}	3.4 ^{cde}				
BCFA	SI3	0.0	0.0	0.0	0.23	0.004	<0.001	0.265
	Caecum	0.36	0.62	0.42				
	Co1	1.3	2.1	1.6				
	Co2	0.91	2.0	1.5				
	Co3	0.86	1.9	1.0				
SCFA	LI	364 ^a	203 ^b	180 ^b	18	<0.001	-	-
Acetate	LI	225 ^a	117 ^b	104 ^b	15	<0.001	-	-
Propionate	LI	74 ^a	42 ^b	41 ^b	6.3	<0.001	-	-
Butyrate	LI	33	32	25	4.9	0.217	-	-
BCFA	LI	3.8 ^b	7.1 ^a	5.2 ^{ab}	0.8	0.021	-	-

Abbreviations: SI3, distal one-third of the small intestine; Co1, proximal one-third of the colon; Co2, mid one-third of the colon; Co3, distal one-third of the colon; LI, large intestine (caecum + colon).

¹Data were expressed as means with standard error of means (SEM) and $n = 10$ per group.

²Mean values with unlike superscript letters were significantly different ($P < 0.05$).