Table S1. Survey of fungi and bacteria in bee bread and cup/frame cage reared bees

Cage	Assessed source of NEW's microbiota	Screened	Universal Fungi	Universal Bacteria	Alpha-1	Alpha-2.1	Alpha-2.2	Beta	Firm-4	Firm-5	Gamma-1
Frame 1	Hive contact	NEWs	0/6	**3/6**	0/3	**1/3**	**1/3**	0/3	**2/3**	**3/3**	**1/3**
Frame 2	Hive contact & Nurses	NEWs	0/6	**5/6**	0/5	**1/5**	**3/5**	**1/5**	**5/5**	**5/5**	**4/5**
		Nurses	0/6	**4/6**	0/4	**2/4**	0/4	**3/4**	**4/4**	**4/4**	**2/4**
Cup 1.1	Bee bread	NEWs	**3/6**	0/6	-	-	-	-	-	-	-
Cup 1.2	Bee bread	NEWs	0/6	0/6	-	-	-	-	-	-	-
		Bee bread	**2/2**	**2/2**	0/2	0/2	**2/2**	0/2	0/2	0/2	0/2
Cup 2	Nurses	NEWs	0/6	**6/6**	0/6	0/6	**6/6**	**5/6**	**2/6**	**5/6**	**1/6**
		Nurses	0/3	**3/3**	0/3	**3/3**	**2/3**	**3/3**	**3/3**	**3/3**	**3/3**
Cup 3	Nurse gut homogenate	NEWs	0/6	**5/6**	0/5	**5/5**	**4/5**	**5/5**	**3/5**	**5/5**	**5/5**

Bold numbers indicate positive reactions.

"-" indicates reactions were not performed because the universal bacterial primer gave a negative result.

Table S2. 454 pyrotag barcode and primer information

Sample ID	Barcode sequence	Linker & forward primer	Reverse primer	Gut organ	Day collected
M09.1	AGCTCATG	CTAAACTYAAAKGAATTGACGG	TACGGYTACCTTGTTACGACTT	Midgut	Day 9
M09.2	CACTCTACTG				
M09.3	CTATCGTACG				
M30.1	TGCGATATCG				Day 30
I09.1	AGCAGTAG			Ileum	Day 9
I09.2	CTGTCAGA				
I09.3	CTAGCATGCT				
I30.1	TGATATCGCG				Day 30
R09.1	CATGTCGA			Rectum	Day 9
R09.2	CGAGCTAGCT				
R09.3	CTCGTATACG				
R30.1	TGCGATCGTA				Day 30

Table S3. Alpha diversity of 454 pyrotag samples

	Organ	Day	Sample	Total Sequences	OTUs	Chao 1	Shannon index	Simpson index	Good's coverage	Bootstrap estimate richness
With singleton OTUs	**Midgut**	**9**	**M09.1**	13889	36	88.5	1.2	0.4	1.0	44.3
			M09.2	2790	12	15.0	1.3	0.3	1.0	13.6
			M09.3	2291	7	10.0	0.9	0.5	1.0	8.1
		30	**M30.1**	4430	8	14.0	0.3	0.8	1.0	9.5
	Ileum	**9**	**I09.1**	11104	13	13.0	1.3	0.3	1.0	13.5
			I09.2	5297	12	14.0	1.4	0.3	1.0	13.8
			I09.3	10678	11	11.0	1.2	0.4	1.0	11.4
		30	**I30.1**	7445	7	7.0	0.8	0.5	1.0	7.3
	Rectum	**9**	**R09.1**	13351	13	13.0	0.4	0.9	1.0	13.6
			R09.2	8039	13	15.0	0.3	0.9	1.0	14.7
			R09.3	11156	13	13.0	0.6	0.8	1.0	13.5
		30	**R30.1**	6035	13	13.0	1.1	0.5	1.0	13.4
Without singleton OTUs	**Midgut**	**9**	**M09.1**	13871	18	18.8	1.2	0.4	1.0	19.6
			M09.2	2788	10	10.5	1.3	0.3	1.0	10.9
			M09.3	2290	6	7.0	0.9	0.5	1.0	6.7
		30	**M30.1**	4430	8	14.0	0.3	0.8	1.0	9.5
	Ileum	**9**	**I09.1**	11104	13	13.0	1.3	0.3	1.0	13.5
			I09.2	5295	10	10.3	1.4	0.3	1.0	11.1
			I09.3	10678	11	11.0	1.2	0.4	1.0	11.4
		30	**I30.1**	7445	7	7.0	0.8	0.5	1.0	7.3
	Rectum	**9**	**R09.1**	13351	13	13.0	0.4	0.9	1.0	13.6
			R09.2	8039	13	15.0	0.3	0.9	1.0	14.7
			R09.3	11156	13	13.0	0.6	0.8	1.0	13.5
		30	**R30.1**	6035	13	13.0	1.1	0.5	1.0	13.4