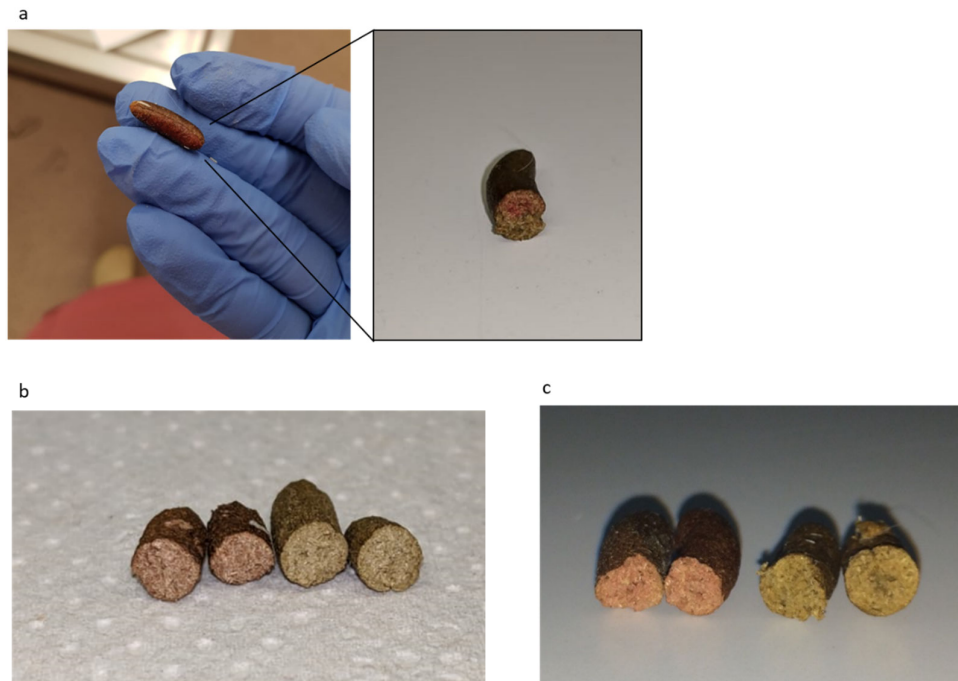
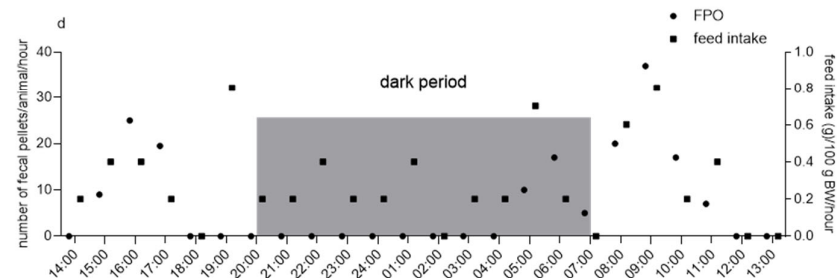
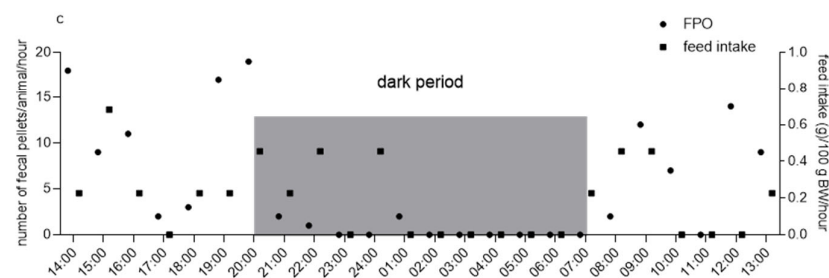
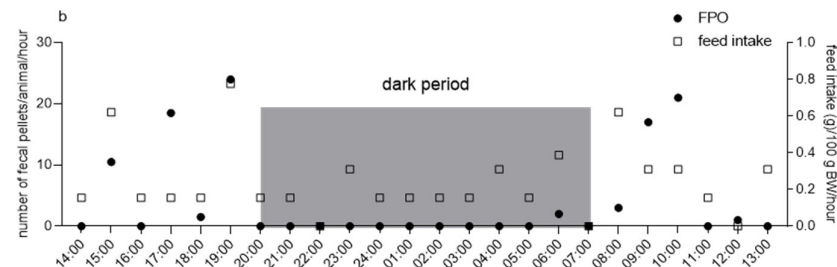
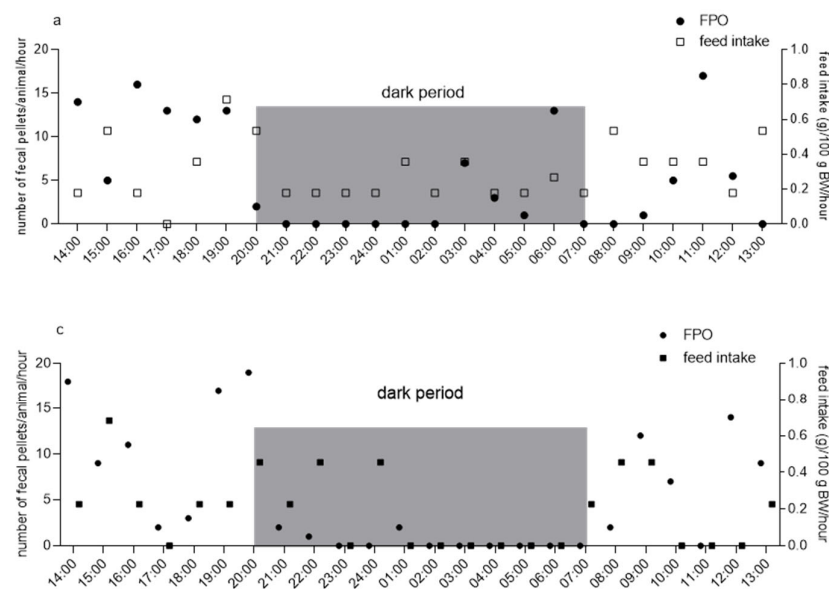


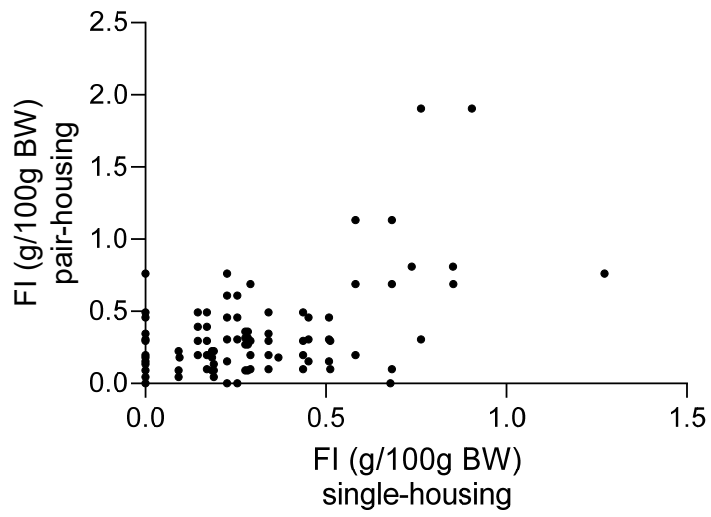
## Supplementary figures



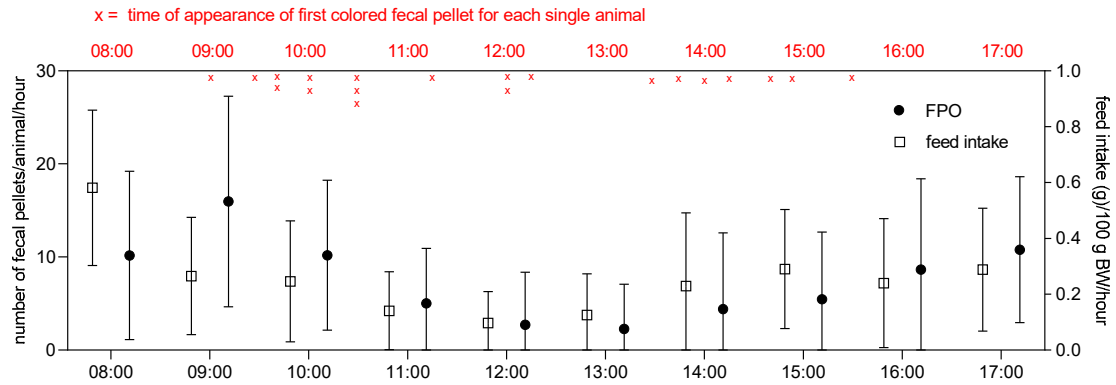
**Supplementary figure S1:** preliminary testing of different amounts of orally administered 6% carmine red solution leading to coloring of fecal pellets. Pictures show the first red pellet detected by visual inspection. **(a)** First red fecal pellet after oral administration of 0.25 ml/100 g BW 6% carmine red. Note, only faint and incomplete staining of the pellet outside and inside (displayed panel a). **(b)** First red fecal pellet after oral administration of 0.50 ml / 100 g BW 6% carmine red. **(c)** First red fecal pellet after oral administration of 1.0 ml / 100 g BW 6% carmine red



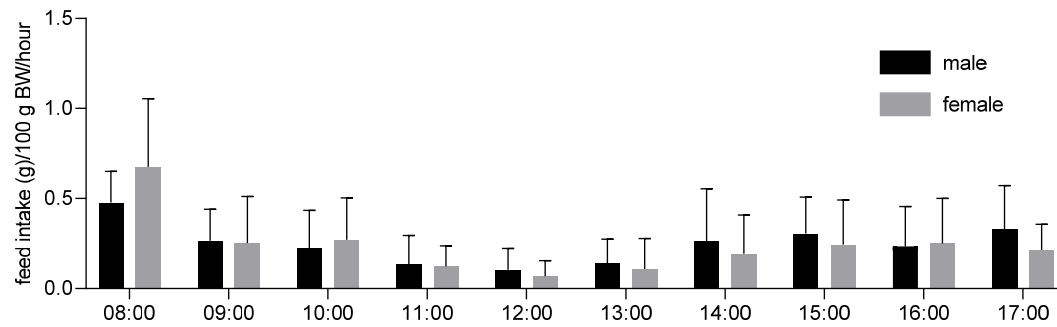
**Figure S2:** fecal pellet output (FPO) aligned to feed intake (FI) of each of the four single-housed guinea pigs in experiment 1; means  $\pm$  SD. Times on the x axis indicate end time for each hour (e.g. 14:00: values measured between 13:00 and 14:00). Dark grey box indicates values measured during the dark period (07:00 to 19:00). Each panel (a–d) represents values recorded from one animal.



**Figure S3:** correlation of hourly feed intake (FI) of guinea pigs under single-housing and pair-housing conditions during a 24 h recording period in experiment 2.  $n = 6, 144$  pairs; Spearman  $r = 0.25$ ,  $p < 0.01$ .



**Figure S4:** fecal pellet output (FPO) aligned to feed intake (FI) in single-housed guinea pigs in experiment 3 between 07:00 and 17:00 during the light period. Times on the x axis indicate end time for each hour (e.g. 14:00: values measured between 13:00 and 14:00). Animals received a 6% carmine red solution (0.5 ml / 100 g bodyweight) for determination of intestinal transit time at 07:00. Red crosses indicate time point of appearance of first red colored fecal pellet for individual animals.  $n = 20$ ; means  $\pm$  SD.



**Figure S5:** feed intake (FI) in male and female guinea pigs between 07:00 and 17:00 during the light period in experiment 3; times on the x axis indicate end time for each hour (e.g. 14:00: values measured between 13:00 and 14:00). two-way-ANOVA revealed no differences between sexes and a significant impact by time of the day ( $p < 0.001$ ).  $n = 20$  (10 male, 10 female); means  $\pm$  SD.