

Evaluation of novel rope flavors as environmental enrichment for stalled gilts


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Introduction

- Biologically relevant environmental enrichment may provide pigs with an outlet for exploratory behavior, reduce stress, and improve pig welfare
- Pigs are highly oral-nasal focused, so devices that encourage rooting, foraging, and chewing are likely valued by pigs
- Novel environmental enrichment devices are used more often than familiar ones; however, it can be difficult to maintain novelty
- The objective of this study was to evaluate the use of flavored ropes as environmental enrichment for individually housed gilts
- We hypothesized that pigs would interact with flavored ropes more than ropes soaked in water

Materials & Methods

- Twelve crossbred gilts (112 ± 12 kg) were observed using a randomized crossover design so that each gilt was tested with two treatments
 - Four treatment flavors were tested by soaking cotton rope within the assigned treatment for 30 minutes on day 1:
 - 1) Water (n=5)
 - 2) Salt water (Salt, n=6)
 - 3) Sugar water (Sugar, n=6)
 - 4) Apple juice (Apple, n=7)
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- Figure 1. Gilt housing
- The rope was tied to an overhead bar at 10:00 hours on day 1 and was removed at 19:00 hours on day 2
 - Video was analyzed using a 2-minute scan sample interval between 07:00 and 19:00 hours
 - Oral/nasal contact with the rope, standing and lying postures were recorded

Statistical Analysis

- Data were analyzed using the Glimmix procedure of SAS 9.4 (SAS Inst. Inc., NC, USA)
- Model included the fixed effects of treatment, day, their interaction and the random effect of treatment order
- The significance level was fixed at $P \leq 0.05$ and tendency at $P \leq 0.10$

Results & Discussion

- Oral/nasal contacts did not differ between rope treatments
- Regardless of treatment, gilts had more oral/nasal contact with the rope on day 1 than day 2 (Fig. 2a)

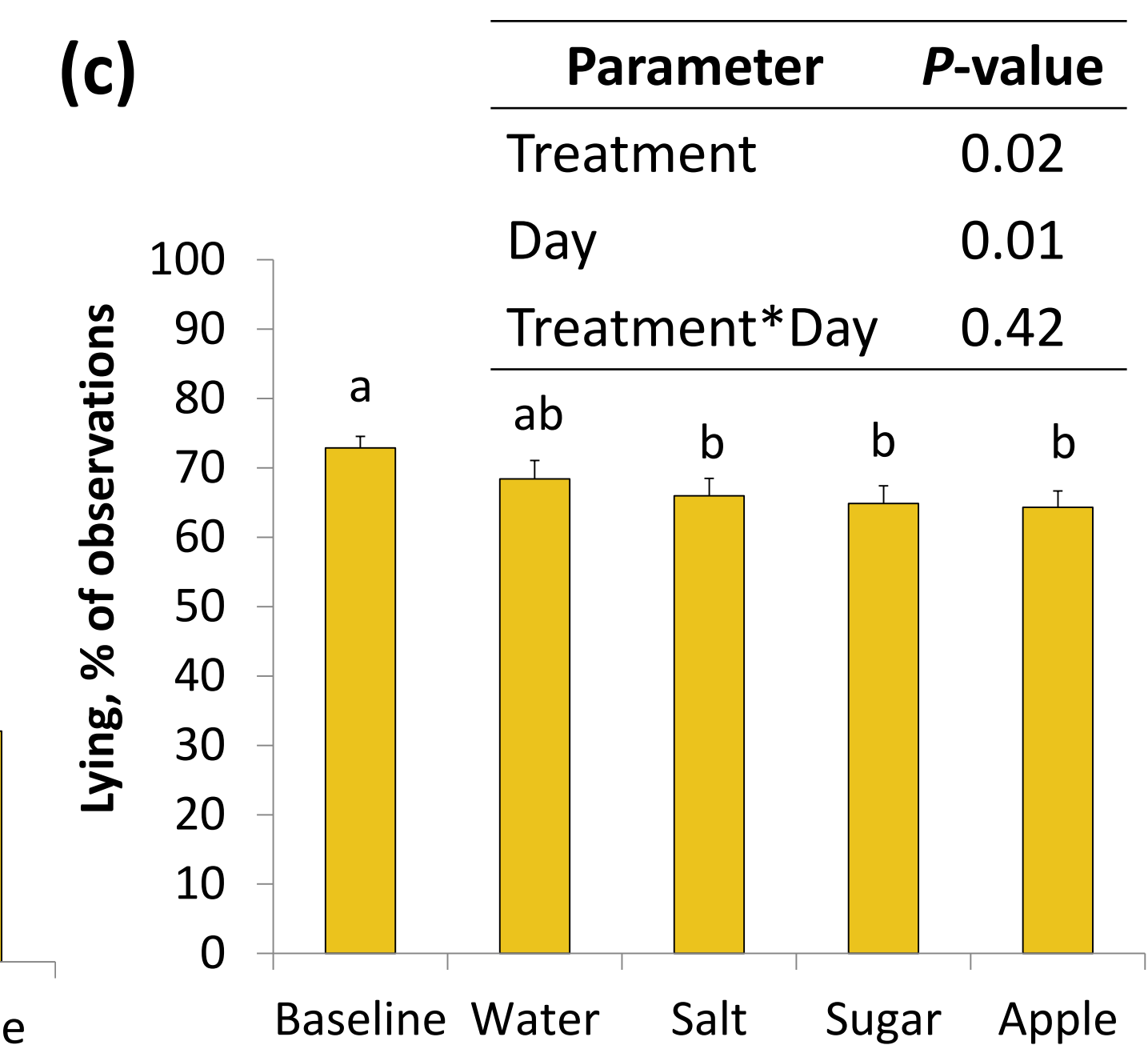
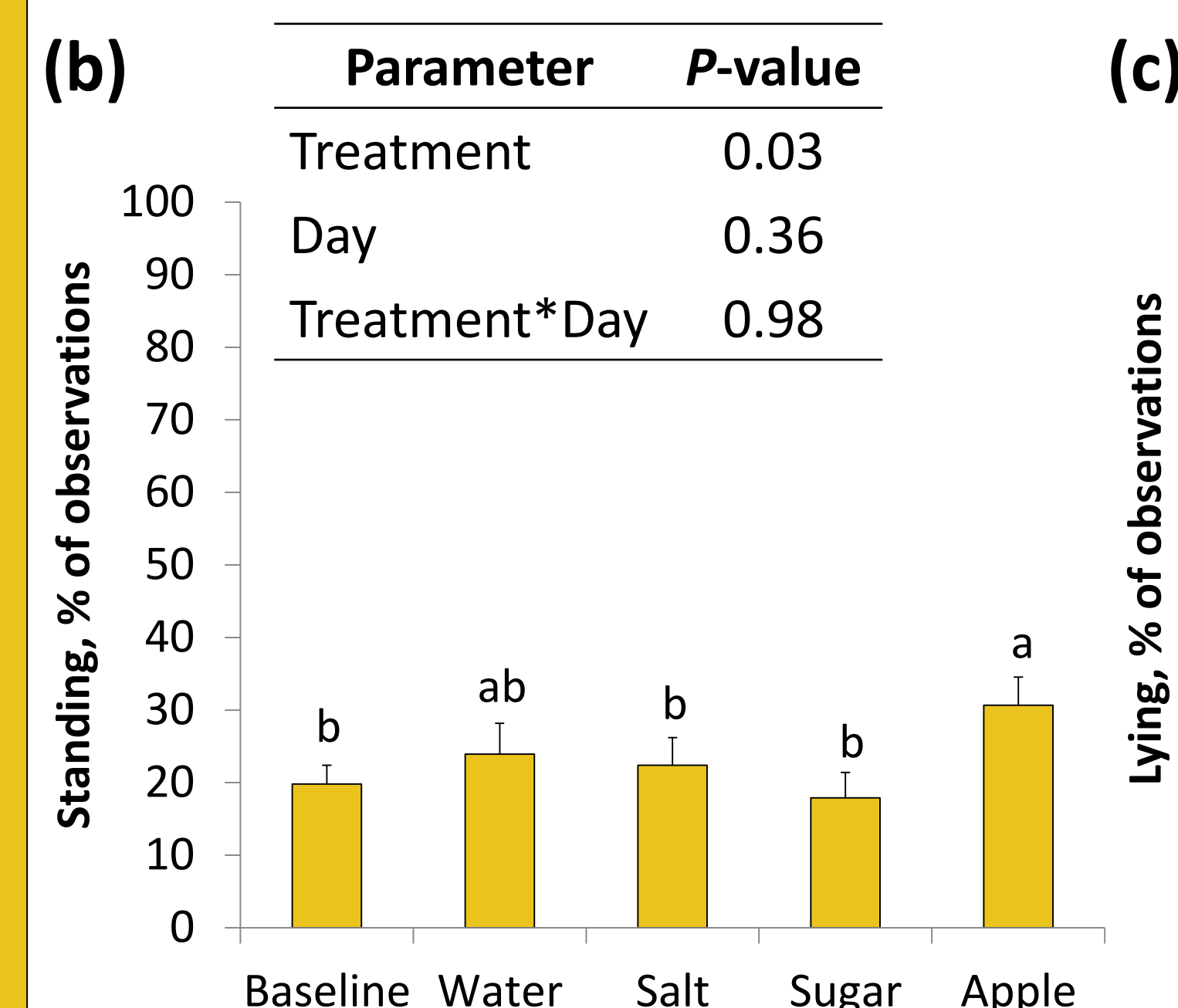
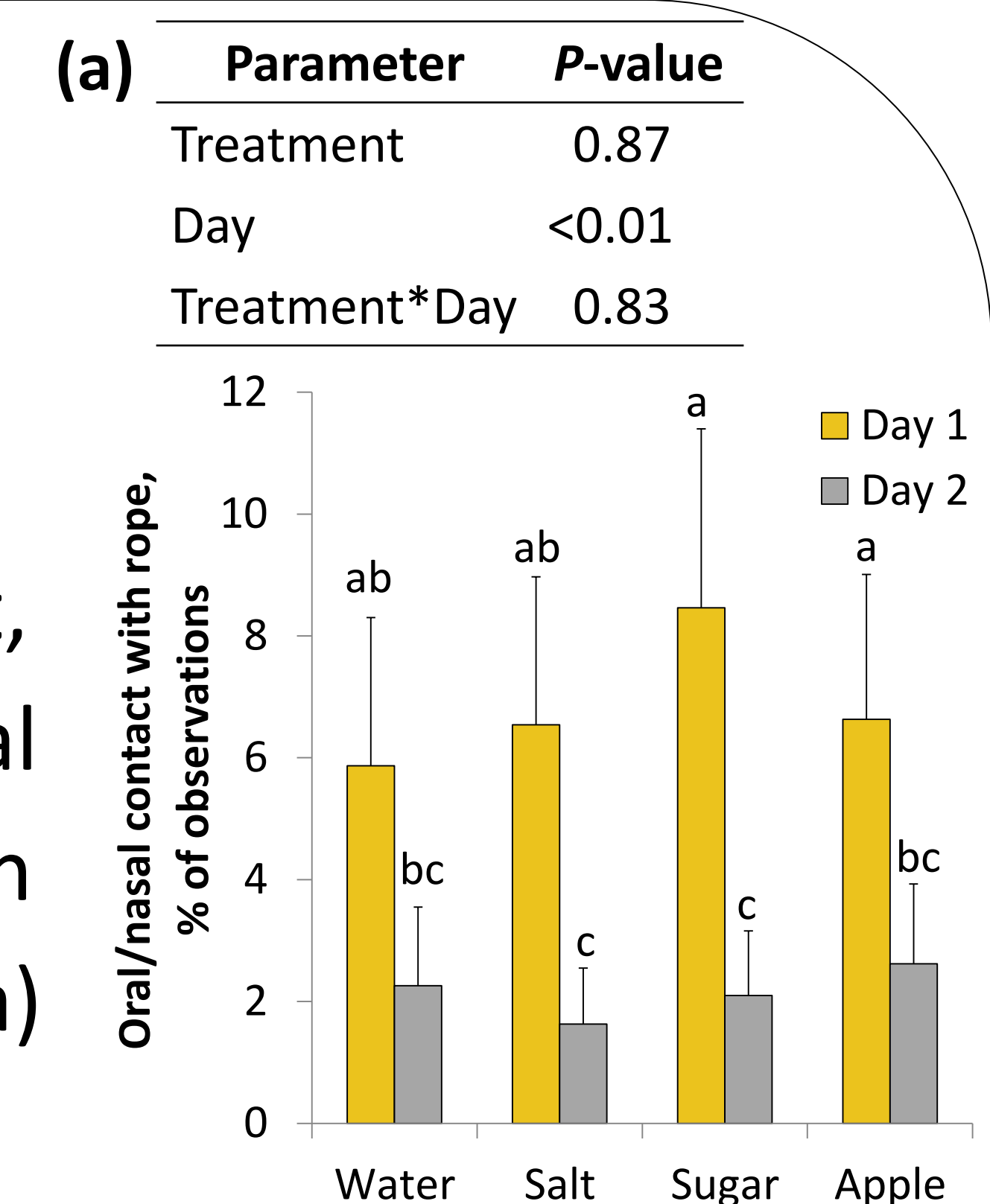


Figure 2. Percent of observations that gilts were engaged in oral/nasal contact with the rope (a), standing (b), and lying (c). Simple effects of treatment and day are presented in (a) and the main effect of treatment are presented in (b & c).

- Apple treatment resulted in gilts standing more than baseline, salt and sugar treatments (Fig. 2b)
- Apple, salt and sugar treatments were observed lying less than baseline
- Regardless of treatment, gilts were observed lying 5% less on day 1 than day 2 (Fig. 2c)
- In conclusion, these results suggest that flavored rope enrichment does not alter oral/nasal contact, but may impact activity levels in individually penned gilts