



Figure 1. Results from the field (a, b) and lab (c, d) data. Field data was collected on all 315 queens. A subset of 51 queens were sent to the Tarpy Lab for further analysis. Error bars show standard deviation. (a) There was no significant effect of rearing method on queen survival ($p=0.94$). (b) In order to assess worker population at the end of the queen rearing process, nucs were visually rated from 1 (sparse population) to 3 (bubbling over with bees). Population size at that time is primarily impacted by the queen rearing process itself, not the reproductive quality of the new queen. There was no significant effect of rearing method on worker population ($p=0.07$). (c) Morphological grade is a summary statistic that incorporates head width, thorax width and weight. There was no significant effect of rearing method on morphological grade ($p = 0.21$). (d) Insemination grade is a summary statistic that incorporates total sperm count, viable sperm count, percent sperm viability, spermatheca diameter and percent spermatheca filled. There was no significant effect of rearing method on insemination grade ($p = 0.74$). Bee and comb illustrations by Hang Tran.