

Abstract

Although the effects of numerous factors (such as age of grafted larvae, supplemental feeding and mating) have been studied on the honey bees of Europe and America, they remain unknown for African bee races. To bridge this gap, a study was undertaken at the icipe Karura forest apiaries in Kenya to determine the effect of larval age and supplemental feeding on morphometrics and oviposition in the honey bee *Apis mellifera scutellata* queens. Queens were reared in 12 colonies with two feeding regimes, fed and not fed. Five larval age groups: 6, 12, 24, 36, and 48 h old, were grafted from each colony. We measured the fresh weight, spermatheca volume and the external parameters of the emerged queens and compared the oviposition rate by counting the number of eggs laid daily in naturally mated queens (NM) and artificially inseminated queens (AI). Our results show that age of grafted larvae and supplemental feeding significantly affect the morphometrics of the reared queens ($p = 0.001$), while oviposition rate is more or less the same in NM and AI. This work could eventually be used to select the best breed of honey bee subspecies in East Africa and improve queen rearing methods.