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Development and Fecundity of *Aphis Gossypii* Glover (Homoptera: Aphididae)
on Three Malvaceae Hosts



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Abstract: *Aphis gossypii* Glover (Homoptera, Aphididae) obtained from cotton fields near Adana in the east Mediterranean region of Turkey were colonized on *Gossypium hirsutum* L. 'Çukurova 1518' in a climatic room. The effect of host transfer from cotton to common mallow, *Malva sylvestris* L., and okra, *Abelmoschus esculentus* (L.) Moench 'Bamya 501', on performance of *A. gossypii* was studied at constant $25 \pm 1^\circ\text{C}$, $60 \pm 5\%$ relative humidity and 16 h of artificial light (5000 lux) in temperature cabinets. Three subsequent generations of *A. gossypii* from cotton were additionally tested on okra. Fecundity tables were constructed to compare the performance of the cotton aphid on the three different Malvaceae hosts. Developmental time (6.0 days) was longer and fecundity reduced (4.5 nymphs/aphid) on okra compared to common mallow (5.6 days and 62.8 nymphs/aphid) and cotton (5.5 days and 37.9 nymphs/aphid). The highest age-specific number of nymphs (m_x) occurred on common mallow at an age of nine days with 6.8 nymphs/aphid, and the lowest on okra with only 1.2 nymphs/aphid at the ninth day. *A. gossypii* on cotton produced a maximum age-specific number of nymphs at day ten with 3.4 nymphs/aphid. Generation times (T_0) were similar for all three host plants, however, the mean number of aphids laid during an individual's lifetime (R_0) varied largely between 4.2 aphids/aphid on okra to 65.7 nymphs/aphid on common mallow. The significantly lowest intrinsic rate of increase (r_m) (0.129 aphids/aphid/day) was calculated for *A. gossypii* on okra. Even after three subsequent generations on okra, the performance did not improve, indicating that genetically distinct host races exist in *A. gossypii*. On common mallow an r_m value of 0.397 aphids/aphid/day occurred, whilst on cotton the intrinsic rate of increase was significantly lower with 0.338 aphids/aphid/day.

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