

Impact of three selected companion plants on selection of host plant, *Vigna unguiculata sesquipedalis* by the aphid species, *Aphis craccivora*

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Among emerging alternative pest control strategies, the use of companion plants to protect crops shows promise. In this view, an experimental study was carried out to test the applicability of three plants, namely white chrysanthemum (*Chrysanthemum* spp.), garden mint (*Mentha spicata*) and African marigold (*Tagetes erecta*) as companion plants to control *Aphis craccivora* infesting long bean (*Vigna unguiculata sesquipedalis*). All trials were conducted using a glass test chamber (dia. 12 cm) with a central arena and four compartments, each of which to harbour the plant leaves during separate trials. In each trial, 4th instar larvae (n=10) of the aphid were released to the central arena, and their movement was followed to get the count of aphids in each compartment every 10 minutes up to 40 minutes. The final aphid counts were statistically compared among compartments. In the first trial, when only long bean plant leaves were kept in all compartments, there was no significant difference ($p>0.05$) in aphid number among compartments indicating that the aphid attraction to the host plant was not selective. In the second trial, when four compartments had four different plant leaves (from each candidate companion plant and long bean), marigold and mint leaves had significantly lower aphid numbers ($p<0.05$) compared to long bean leaf, indicating that the former had some repellent action towards aphids. In the third trial, the aphid movement was followed when the long bean leaf was accompanied by a companion plant leaf. When each companion plant leaf was present with the host plant leaf in the same compartment, the attraction of aphids to the host plant leaf was significantly lower ($p<0.05$) than when the host plant leaves were alone (control). The results indicate that all three plants tested can be used as companion plants to reduce aphid infestation in long beans, via their potentially repellent action towards aphids. Among three companion plants, mint shows the best repellent action indicating its potential for controlling aphids of long bean.

Keywords: *Aphis craccivora*, *Chrysanthemum* spp., companion plants, *Mentha spicata*, *Tagetes erecta*

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