

## Performance of Different Biodegradable Waxes Based Specialized Pheromone and Lure Application Technology-Male Anhelation Technique-Cue Lure Formulations in Bittergourd Field against *Bactrocera cucurbitae*

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**Abstract :** Melon fruit flies (Diptera: Tephritidae: Dacinae) are economically important pests of the cucurbits and are geographically distributed throughout the tropics and subtropics of the world. It causes heavy quantitative and qualitative losses in bitter gourd. The present experiment was carried out to evaluate the performance of different biodegradable waxes based SPLAT-MAT-CL (Specialized Pheromone and Lure Application Technology-Male Anhelation Technique- Cue Lure) formulations in bitter gourd field. Fourteen SPLAT-MAT emulsions/formulations were prepared by admixing different SPLAT matrices with toxicant (spinosad) and sex pheromone cue lure (attractant) in different proportionate percentage by weight. The results revealed that attraction and trapping of fruit flies of *B. cucurbitae* varied significantly for different SPLAT-MAT-CL formulations ( $p < 0.05$ ). The maximum *B. cucurbitae* males were trapped in SPLAT-MAT-CL-7 (60 flies/trap/day) followed by SPLAT-MAT-CL-9 (40 flies/trap/day). The performance of all other formulations of SPLAT-MAT-CL was found in the order of SPLAT-MAT-CL-8 (30 flies/trap/day) > SPLAT-MAT-CL-3 (28 flies/trap/day) > SPLAT-MAT-CL-5 (25 flies/trap/day) > SPLAT-MAT-CL-4 (22 flies/trap/day) > SPLAT-MAT-CL-12 (20 flies/trap/day) > SPLAT-MAT-CL-2 (19 flies/trap/day) > SPLAT-MAT-CL-14 (17 flies/trap/day) > SPLAT-MAT-CL-13 (15 flies/trap/day) > SPLAT-MAT-CL-11 (10 flies/trap/day) > SPLAT-MAT-CL-1 (8 flies/trap/day) > SPLAT-MAT-CL-10 (02 flies/trap/day). Overall, all the SPLAT-MAT-CL formulations, except SPLAT-MAT-CL-10, demonstrated higher density of captures of *B. cucurbitae* males as compared to standard (06 flies/trap/day). The results also demonstrate that SPLAT-MAT-CL-7, SPLAT-MAT-CL-9, SPLAT-MAT-CL-8, SPLAT-MAT-CL-3, SPLAT-MAT-CL-5, SPLAT-MAT-CL-4, SPLAT-MAT-CL-12, SPLAT-MAT-CL-2, SPLAT-MAT-CL-14, SPLAT-MAT-CL-13, SPLAT-MAT-CL-11 and SPLAT-MAT-CL-1 explained approximately 5, 4.6, 4.1, 3.6, 3.3, 3.1, 2.8, 2.5 and 1.6 times higher captures of *B. cucurbitae* males over standards. However, SPLAT-MAT-CL-10 demonstrated 3 times fewer captures of *B. cucurbitae* males over standards. In conclusion, SPLAT-MAT-CL-7, SPLAT-MAT-CL-9 can be exploited for the monitoring and trapping of *B. cucurbitae* in its IPM of program.

**Keywords :** attractancy, field conditions, melon fruit fly, SPLAT-MAT-CL

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