

## Effects of intercropping of marigold and yardlong bean on population of cowpea aphid, *aphis craccivora* koch

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### Abstrak

#### <b>ABSTRACT</b><br>

The experimental field was planted at Pathum Thani Province to assess the effects of marigold and yardlong bean intercropping on a number of cowpea aphids, a number of natural enemies, growth and yield of yardlong bean and insect bio-diversity. The experimental design was a randomized complete block design (RCBD) with four treatments each of which was replicated three times. Each of the 12 plots measured 7 m x 5 m in the experiment. The distance between inter and intra row spacing for all treatments was 70 x 50 cm with 1 m spacing between plots. The intercropping treatments were: sole yardlong bean (T1), 1 row of yardlong bean with 1 row of marigold (T2), 2 rows of yardlong bean with 1 row of marigold (T3) and 3 rows of yardlong bean with 1 row of marigold (T4). The results showed that intercropping yardlong bean with marigold had significant ( $p < 0.05$ ) effect on the number of cowpea aphids, the number of natural enemies, growth and yield of yardlong bean and insect bio-diversity when compared with the sole yardlong bean. The 1 row yardlong bean + 1 row marigold had the lowest number of cowpea aphids from week1 to week6 when compared with other intercropping. The 1 row yardlong bean + 1 row marigold were value with  $26.32 \pm 1.24$ ,  $42.00 \pm 0.61$ ,  $65.33 \pm 1.69$ ,  $70.33 \pm 1.69$ ,  $110.66 \pm 1.24$  and  $145.00 \pm 1.63$  aphids/ 5 yardlong, ladybird beetles ( $34.60 \pm 1.24$ ), black ant ( $30.80 \pm 1.24$ ) and spider ( $17.33 \pm 0.94$ ), plant height and weight ( $42.25 \pm 0.82$  cm and  $2.75 \pm 0.82$  kg) and insect bio-diversity (1.44). Therefore, intercropping yardlong bean with marigold is an effective practice in the control of cowpea aphids and enhancing insect bio-diversity.