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

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Abstrak

ABSTRACT
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+1.24, 42.00+0.61, 65.33+1.69, 70.33+1.69, 110.66+1.24 and 145.00+1.63 aphids/ 5 yardlong, ladybird beetles (34.60 + 1.24), black ant (30.80 + 1.24) and spider (17.33 + 0.94), plant height and weight (42.25 + 0.82 cm and 2.75 + 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.