

Ecological Effect on Aphid Population in Safflower Crop

Authors : Jan M. Mari

Abstract : Safflower is a renowned drought tolerant oil seed crop. Previously its flowers were used for cooking and herbal medicines in China and it was cultivated by small growers for his personal needs of oil. A field study was conducted at experimental field, faculty of crop protection, Sindh Agricultural University Tandojam, during winter, 2012-13, to observe ecological effect on aphid population in safflower crop. Aphid population gradually increased with the growth of safflower. It developed with maximum aphid per leaf on 3rd week of February and it decreased in March as crop matured. A non-significant interaction was found with temperature of aphid, zigzag and hoverfly, respectively and a highly significant interaction with temperature was found with 7-spotted, lacewing, 9-spotted, and Brumus, respectively. The data revealed the overall mean population of zigzag was highest, followed by 9-spotted, 7-spotted, lace wing, hover fly and Brumus, respectively. In initial time the predator and prey ratio indicated that there was not a big difference between predator and prey ratio. After January 1st, the population of aphid increased suddenly until 18th February and it established a significant difference between predator prey ratios. After that aphid population started decreasing and it affected ratio between pest and predators. It is concluded that biotic factors, 7-spotted, zigzag, 9-spotted Brumus and lacewing exhibited a strong and positive correlation with aphid population. It is suggested that aphid pest should be monitored regularly and before reaching economic threshold level augmentation of natural enemies may be managed.

Keywords : aphid, ecology, population, safflower

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