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### Competitive interaction of *Tetranychus urticae* Koch and *Eotetranychus lewisi* (McGregor) (Acari: Tetranychidae) on castor bean and strawberry at different temperatures

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The two-spotted spider mite, *Tetranychus urticae* Koch is a polyphagous mite and can cause a severe reduction in strawberry yield. At present, *Eotetranychus lewisi* (McGregor) is emerging as a problem in southern California strawberry production, and has caused significant damage particularly to organic fields. In order to understand the competitive interaction of both species on strawberry and on castor bean, a traditional host for *E. lewisi* in the area. Three temperatures (15, 20 and 25°C) and photoperiod of 16:8 (L:D) were selected for the study. Ten gravid female adults of both the mites were placed onto a whole clean detached leaf. Mites were removed from the leaves after 72 hours and observations were made after 48 hours. The results showed that *E. lewisi* was dominant on *T. urticae* on castor bean leaves at all temperatures in comparison to strawberry. The *E. lewisi* population was found to be 2.90, 4.36 and 47.45 times greater than *T. urticae* at 25, 20 and 15°C, respectively, on castor bean. However, the population of *T. urticae* was 5.14, 6.07 and 1.33 times greater than *E. lewisi* at 25, 20 and 15°C on strawberry. Two conclusions were made from the observed competitive interactions between these mites: *E. lewisi* can survive better than *T. urticae* at low temperatures if a favourable host is available, and *T. urticae* is dominant compared to *E. lewisi* on strawberry. *E. lewisi* was shown to complete its life cycle on strawberry leaves and increase in abundance, so its pest status potential in strawberry cultivation was confirmed.

#### Biography

Paramjit Kaur has completed her Ph.D. from Punjab Agricultural University, Ludhiana, India. She is working as Assistant Acarologist in All India Network Project on Agricultural Acarology, Department of Entomology, Punjab Agricultural University, Ludhiana, India. She is involved in all basic and applied research on Acarology under this project. She has published 11 papers in reputed journals and has received two first prizes for poster presentations at national and international conferences.

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