Influence of weather parameters on safflower aphid, *Uroleucon compositae* (Theobald) and its management

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**ABSTRACT**

Aphid (*Uroleucon compositae* T.) is one of the serious pests of safflower, *Carthamus tinctorius* L. in India. Loss in yield caused by this pest in India ranged from 20 to 80 per cent. Field experiments were conducted during the rabi seasons of 2004-05, 2005-06, 2006-07 and 2007-08 to correlate weather parameters with the incidence of safflower aphid and also to evaluate the efficacy of newer insecticides from different groups for its effective management. The variety Bhima was sown in randomized block design with 9 treatments (including absolute control), 3 replications and plot size of 5.0 x 4.5 m² each. Two foliar sprays at 40-45 and 55-60 DAS were given. Among eight chemical treatments, Thiamethoxam 0.005 % and Acetamiprid 0.004% proved best by recording lowest aphid population and producing the highest seed yield of 1224 kg/ha and 1035 kg/ha, respectively. The B:C ratio was highest in Thiamethoxam (2.28) followed by Acetamiprid (1.86), Dimethoate (1.82), and Imidachloprid (1.69). The pest is active during December to January on pre-branching stage of safflower crop, but its appearance on crop totally depends upon prevailing climatic conditions. Low temperatures and high humidity with cloudy weather are conducive for the multiplication of this pest. However, the maximum and minimum temperatures ranged between 30 to 35 °C and 14 to 17 °C, respectively were found most favourable for the rapid development of aphid on safflower. The rise in temperatures and fall in humidity coupled with crop maturity at the end of January had the deleterious effect on it. Thus, for the effective and efficient control of safflower aphid and producing higher seed yield, two sprayings either of 0.005 % Thiamethoxam (Actra) 25 WG or 0.004 % Acetamiprid (Pride) 20 SP or one spray each alternatively first at ETL i.e. 40-45 DAS (46th MW, min. temp. below 20°C) and second spray at 55-60 DAS (48th MW, min. temp. around 15°C) is recommended particularly in the safflower growing scarcity zone of Maharashtra (India).

**Key words:** *Uroleucon compositae*, Weather parameters, Management