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Effects of olive oil and yeast in liver-based artificial diet for the production of *Orius laevigatus*

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Effects of four artificial diets containing D1) ground beef, beef liver, sucrose solution and egg yolk (as a base diet); D2) first diet plus olive oil; D3) first diet plus yeast and D4) first diet plus olive oil and yeast on life history traits of the predaceous bug, *Orius laevigatus* were studied under laboratory condition. Nymphal development time of bugs reared on D4 was significantly lower in comparison to other diets (14.2±0.2, 14.1±0.1 and 14.1±0.1, 13.7±0.1 days respectively for D1 to D4) but was not significantly different from conventionally reared individuals on *Ephestia kuehniella* eggs (13.0±0.1 days). Although, nymphal survivorship for D2 and D4 did not show a significant difference (75±4.3% and 83±4.8%) from nymphs reared on *E. kuehniella* eggs (87±5.5%), the nymphal survival of D2 and D4 was significantly higher than D1 and D3 (37.33±5.7% and 57.5±7.7% respectively). Another study was conducted to compare the biological characteristics of adult bugs reared on D4, as the most efficient diet for nymphs, and *E. kuehniella* eggs. Fecundity of females fed with D4 (126 eggs) did not reveal any significant difference compared to females reared on *E. kuehniella* eggs (118 eggs). The egg hatch and oviposition rate of bugs reared on the aforementioned diets were similar. The results of this research suggest that adding olive oil, as a resource of fatty acids, and yeast can improve the nutritional value of the artificial diet for *O. laevigatus*.