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A fruit based diet for mass rearing of melon fly *Bactrocera cucurbitae* (Diptera: Tephritidae)

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Abstract

In this study, a fruit based diet, which is less resource expensive was developed for mass rearing of melon fruit fly, *Bactrocera cucurbitae*. Three types of yeasts (yeast extract, brewer's yeast and yeast autolysate) were evaluated in larval rearing medium with standardized antimicrobial agents. The diets were assessed in terms of pupal yield, larval duration, pupal weight, adult emergence active fliers, sex ratio, fecundity and fertility. Among the fruit based diets, the diet-III with 15g of yeast extract resulted in significantly maximum pupal yield (80.93%) with pupal mass of 1.41g/100 pupae. The pupae recovered from diet-III produced 69% adults with flight ability of 74.36%. The diet supplemented with 15g of brewer's yeast resulted in 71.9% pupae recovery with 59.3% adult emergence and 69.1% adult flies. Adult flies from Diet-III gave relatively maximum number of eggs (15.84 eggs/female/day) with egg hatchability of 65.3%. With regard to other biological parameters also fly reared on Diet-III was found superior.

Keywords

Melon fruit fly, fruit-based diet, yeast extract, brewer's yeast, yeast autolysate, pupal yield, weight, larval duration, adult emergence, sex ratio, fecundity.

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