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FOOD CONSUMPTION AND UTILIZATION OF AGROTIS SEGETUM LARVAE PARASITIZED BY MICROPLITIS MEDIATOR.

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ABSTRACT

The unparasitized Agrotis sgetum larvae ingested 2434.57 mg (av.115.93 mg/day) dry weight of sugar beet leaves, produced 350.01 mg (av. 16.67 mg/day) frass and gained 759.85 mg (av.36.18 mg/day) body weight as compared to the larvae parasitized by Microplitis mediator which ingested 2114 .60 mg (av. 100.69 mg/day) dry weight of sugar beet leaves, produced 295.16 mg (av. 14.06 mg/day) frass and gained 405.30 mg (av.19.38 mg/day) body weight. The percent approximate digestibility (AD), efficiency of conversion of ingested food to body substance (ECI) and efficiency of conversion of digested food to body substance (ECD) values of unparasitized and parasitized larvae were found 89.62 and 87.22; 23.12 and 16.02; 27.14 and 18.44 respectively.

INTRODUCTION

Cutworm Agrotis sgetum (Schiff) is a notorious pest of about all types of field and vegetable crops, horticultural and forestry plants in the seedling stage. Many insect parasites of this pest were recorded by many workers (1 - 30). According to Rehman (31) and Parker & Pinnel (32) the larvae Pieris rapae (L) parasitized by Apanteles glomeratus (L) consumed less food comparedd to unparasitized larvae of the same insect. A. ipsilon larvae parasitized by Meteorus leaviventrus consumed 24.19 % less food and become 36.4 % less destructive to crops the unparasitized larvae (33).

Brewer and King (34) stated that the 3rd, 4th and 5th instar larvae of Diatrcae saccharlis parasitized by Lixophage diatracae (Town) consumed less food and gained less body weight than the unparasitized larvae.

According to Hegazi et al (35), the parasitized larvae of Spodoptera littoralis by Meteorus rufiventries and Chelones inanitus (L) and unparasitized larvae consumed food in the ratio 1.0 : 1.7 :3.5 percent respectively.

Brewer and King (36) reported that the 3rd and 4th instar larvae of Heliothes virescens (F) parasitized by Eucelutoria Sp. consumed significantly less food and gained significantly less body weight after 48 and 120 hours of parasitization as compared to unparasitized ones. The approximate digestibility (AD) value was significantly greater for parasitized than unparasitized larvae, but efficiency in the conversion of ingested food to body substance (ECI) was similar for both parasitized and unparasitized larvae.

MATERIALS AND METHODS

The experiment on food consumption and utilization by unparasitized and parasitized Agrotis sgetum (Sciff) larvae by Microplitis mediator (Holiday) was conducted in the laboratory at 25 ± 2° of temperature, 60 - 70 % R.H. and 14 : 10 light : dark regimes. For this purpose the host and its parasite were reared in the lab. at the above mentioned climatic regimes. Pre-weight of 15 nos. of host larvae (3 days old) were got parasitized by Microplitis mediator females. These were placed separately in plastic cups containing pre-weight sugarbeet leaves. Similarly 5 nos. of unparasitized host larvae of same age were also placed separately in plastic cups of the same size and allowed to feed on pre-weight sugarbeet leaves. To determine the amount of water evaporation pre-weight of sugarbeet leaves were kept in 5 nos. of plastic cups with out any larvae. The pre-