Short Communication

Comparison of feeding indices of *Chrysodeixis chalcites* (Lep.: Noctuidae) on four tomato cultivars

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Abstract

The tomato looper, *Chrysodeixis chalcites* is one of the polyphagous pests of different agricultural crops including tomato in Iran. Nutritional indices of fourth and fifth instars of this pest in response to feeding on four cultivars of tomato (*“Cal.JN3”*, “Hed rio grande”, “Sun 6108f1” and “Super crystal”) were evaluated under laboratory conditions (25±1°C, 65 ± 5% RH, and photoperiod of 16:8 (L: D) h). Our results showed that the highest efficiency of conversion of ingested (ECI) (61.89%) and digested (ECD) (81.64%) food, and the lowest approximate digestibility (AD) (82.50%) and consumption index (CI) (1.69) were on “Sun 6108f1”. The larvae reared on Super crystal had the highest RCR (0.341 mg/mg/day) value. The highest value of growth rate (GR) was on “Hed rio grande” (3.42 mg/day), and lowest value of this index was on “Hed rio grande” (2.58 mg/day). Our findings revealed that cultivars “Hed rio grande” and “Cal.JN3” were unsuitable for feeding of *C. chalcites*.

Key words: *Chrysodeixis chalcites*, Nutritional indices, Tomato.

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DOI: http://dx.doi.org/10.22092/jaep.2017.107212
Chrysodeixis chalcites

Chrysodeixis chalcites (Esper)  
(Cabi, 2007; Nouri-Ganbalani et al., 2015)  
Modarres Awal (1994)  
Haynes and Millar, 1998  
Waldbauer, 1968  
Gasim and Younis, 1989; Haralky and Farag, 1975; Rashid )  
(del Pino et al., 2011)  
Sun 6108 f1 Cal.JN3  
Hed rio grande  
Super crystal

C. chalcites  
C. chalcites  
Waldbauer (1968) (one-way ANOVA)

MINITAB ver. 16

روش بررسی

"Sun 6108 f1 "Hed rio grande" و "Super crystal" بند چهره رقم گوجه فرنگی شامل از "Sun 6108 f1 "Hed rio grande" و "Super crystal"، در طرح یک بیشگی لازم دارد برای دانشمندانی که به شناخت و شناسایی گونه‌های مختلف از طریق شیمیایی و روش‌های انتخابی می‌خواهند. در این بخش، از آزمون‌های مختلفی مورد استفاده قرار گرفته است. این آزمون‌ها عبارتند از:

1. آزمون تحلیل واریانس (ANOVA)  
2. آزمون تحلیل واریانس یک طرفه (one-way ANOVA)

آنها در نرم‌افزار Minitab version 16 اجرا شده است.
Table 1. The mean (±SE) feeding indices of whole fourth and fifth instar larvae of *Chrysodeixis chalcites* on four tomato cultivars

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>CI</th>
<th>AD (%)</th>
<th>ECI (%)</th>
<th>ECD (%)</th>
<th>RCR (mg/mg/day)</th>
<th>RGR (mg/mg/day)</th>
<th>GR (mg/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun 6108 f1</td>
<td>1.69±0.15c</td>
<td>82.50±1.00b</td>
<td>61.89±2.49a</td>
<td>81.64±3.397a</td>
<td>0.229±0.025b</td>
<td>0.054±0.005a</td>
<td>3.42±0.18a</td>
</tr>
<tr>
<td>Hed rio grande</td>
<td>2.28±0.29b</td>
<td>94.52±0.89a</td>
<td>13.79±1.47b</td>
<td>15.70±1.62b</td>
<td>0.186±0.026bc</td>
<td>0.029±0.005b</td>
<td>2.58±0.17c</td>
</tr>
<tr>
<td>CalJN3</td>
<td>2.14±0.09bc</td>
<td>94.13±0.27a</td>
<td>16.36±0.82bc</td>
<td>17.69±0.96bc</td>
<td>0.122±0.008bc</td>
<td>0.031±0.002bc</td>
<td>2.73±0.14bc</td>
</tr>
<tr>
<td>Super crystal</td>
<td>3.48±0.16a</td>
<td>84.90±1.07b</td>
<td>12.16±1.12b</td>
<td>15.67±1.91b</td>
<td>0.341±0.015a</td>
<td>0.043±0.004ab</td>
<td>3.31±0.23ab</td>
</tr>
</tbody>
</table>

The means followed by different letters in the same column are significantly different (Tukey test, *P* < 0.01).

CI, Consumption index; AD, Approximate digestibility; ECI, Efficiency of conversion of ingested food; ECD, Efficiency of conversion of digested food; RCR, Relative consumption rate; RGR, Relative growth rate; GR, Growth rate

The means followed by different letters in the same column are significantly different (Tukey test, *P* < 0.01).
References


(See page 358 for more references and information.)