



**Fifth Article: Sharing with another inside the specialization -Published**

Article title	<b>Adverse Effects of Chlorfenapyr and Chlorantraniliprole on Silkworm <i>Bombyx mori</i> L. Parameters and Reduction of their Effects Using Ascorbic acid</b>
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Article status	Sharing with another inside the specialization - Published in local Journal
The Journal	Fayoum Journal of Agricultural Research and Development, 38 (3), 413-423.

**ABSTRACT**

Pesticides used to control pests challenge silk production because they contaminate mulberry leaves. We determined the toxicity of chlorfenapyr and chlorantraniliprole on the 5<sup>th</sup> larval instar of the silkworm *Bombyx mori* L by feeding it on sprayed mulberry leaves (*Morus alba* var. *indicia*), as well as approaches to protect silkworms from their effects using ascorbic acid. The LC<sub>50</sub> values were 10.32 and 13.17 ppm for chlorfenapyr, and chlorantraniliprole, respectively, after 72 h. The larval weight, cocoon weights, cocooning percentages, and silk productivity parameters of individuals fed on leaves treated with 1% ascorbic acid solution were 2.21 g, 1.18 g, 93.05%, and 2.42 cg/d, respectively. While feeding on leaves treated with chlorfenapyr, they were 1.87 g, 1.01 g, 90.0%, and 1.24 cg/d, respectively, and when feeding on leaves treated with chlorantraniliprole, they were 1.91 g, 1.01 g, 90.14%, and 1.36 cg/d, respectively. Furthermore, in this work, we proved the potential of ascorbic acid to protect silkworms from the adverse effects of the examined pesticides. Feeding larvae on mulberry leaves treated with 1% ascorbic acid in the first day before pesticide application resulted in enhanced cocoon weights, cocooning percentages, and silk productivity (1.06 g, 91.95%, and 1.53 cg/d, in the chlorfenapyr with 1% ascorbic acid), and (1.08 g, 91.25 %, and 1.66 cg/d, in the chlorantraniliprole with 1% ascorbic acid)

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