

Supplementary Materials: Toxicity and Influence of Sublethal Exposure to Sulfoxaflor on the Aphidophagous Predator *Hippodamia variegata* (Coleoptera: Coccinellidae)

Panagiotis J. Skouras ^{1,2,*}, Eirini Karanastasi ³, Vasilis Demopoulos ², Marina Mprokaki ¹, George J. Stathas ¹ and John T. Margaritopoulos ⁴

¹ Laboratory of Agricultural Entomology and Zoology, Department of Agriculture, Kalamata Campus, University of the Peloponnese, 24100 Antikalamos, Greece; marina.brokaki.97@gmail.com (M.M.); g.stathas@uop.gr (G.S.)

² Laboratory of Plant Protection, Department of Agriculture, Kalamata Campus, University of the Peloponnese, 24100 Antikalamos, Greece; v.dimopoulos@go.uop.gr

³ Plant Protection Laboratory, Department of Agriculture, University of Patras, 30200 Messolonghi, Greece; ekaranastasi@upatras.gr

⁴ Department of Plant Protection, Institute of Industrial and Fodder Crops, Hellenic Agricultural Organization "DEMETER", 38334 Volos, Greece; johnmargaritopoulos@elgo.com

* Correspondence: author: p.skouras@go.uop.gr or pskouras@windowslive.com; Tel.: +30-27210-45277; Fax: +30-27210-45234;

Population parameters

The basic life table and population parameters were calculated using the program TWOSEX-MS Chart [41].

The net reproductive rate (R_0) is calculated as: $R_0 = \sum_{x=0}^{\infty} l_x m_x$

Intrinsic rate of increase (r): $\sum_{x=0}^{\infty} e^{-r(x+1)} l_x m_x = 1$

Mean generation time (T): $T = \frac{\ln R_0}{r}$

Finite rate of increase (λ): $\lambda = e^r$

were calculated according to Chi and Liu (1985) [42] and Chi 1988 [43]. The means \pm standard error of the life table parameters were estimated by the bootstrap procedure with 200.000 replicates and the means for each treatment were compared using the paired bootstrap test ($P < 0.05$) [44].

Population projection

The life table data for one generation following different treatments of sulfoxaflor were used to project the population using the free TIMING-MSChart software program [45]. The software program was obtained from <http://140.120.197.173/Ecology/prod02.htm>. The population size was projected over 120 days from an initial population.

References

41. Chi, H. TWOSEX-MSChart: A Computer Program for the Age-Stage, Two-Sex Life Table Analysis. National Chung Hsing University, Taichung, Taiwan. (2021). Available online: <http://140.120.197.173/Ecology/> (accessed on 1 November 2022).
42. Chi, H.; Liu, H. Two new methods for the study of insect population ecology. *Bull. Inst. Zool. Acad. Sin.* **1985**, *24*, 225–240.
43. Chi, H. Life-Table Analysis Incorporating Both Sexes and Variable Development Rates Among Individuals. *Environ. Entomol.* **1988**, *17*, 26–34.
44. Akköprü, E.P.; Atlihan, R.; Okut, H.; Chi, H. Demographic assessment of plant cultivar resistance to insect pests: A case study of the dusky-veined walnut aphid (Hemiptera: Callaphididae) on five walnut cultivars. *J. Econ. Entomol.* **2015**, *108*, 378–387.
45. Chi, H. *TIMING-MSChart: A Computer Program for the Population Projection Based on Age-Stage, Two-Sex Life Table*; National Chung Hsing University: Taichung, Taiwan, 2020.