Aphidizide Wirkung ethanolischer Extrakte aus dem Heiligen Basilikum, Ocimum sanctum*

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Ocimum sanctum Linnaeus (Lamiaceae) is a well regarded spice in the Far East; in Thailand it is grown in mixed culture with cabbage to repel insects. — In the laboratory the aphidical efficacy of ethanolic as well as methanolic Soxhlet-extracts of this plant was tested against the following aphid species: Myzus persicae (Sulzer 1776), Metopolophium dirhodum (Walker 1849), Aphis fabae Scopoli 1763, Sitobion avenae (Fabricius 1775), and Acrhythosiphon pismum (Harris 1776) [Homoptera: Aphididae]. Using a standard concentration of the extract, prepared out of 20 g fresh herb or 5 g dried material per 150 ml ethanol (96%), the highest mortality rate of 77 (± 18)%, was recorded for M. dirhodum in 24 h; the lowest mortality rate of 57% was obtained with A. pisum (all values, also the following, were corrected with the control values). The initial toxicity was high: already 5 min after the application of an ethanolic extract a mortality rate of 79% was observed for M. dirhodum. In addition, a striking restlessness of this aphid species could be noted. Generally, there was no difference in the efficacy between the red and white flowering variety of O. sanctum. A rotary-evaporated methanol extract was diluted with aqueous ethanol of different concentrations; with ethanolic extract solutions of 96%, 84% and 72% the mortality rate for M. dirhodum with approximately 90% in 24 h practically did not change. Only with solutions containing lower alcohol contents the mortality rate dropped to 44% (extract with 24% ethanol). An increase in efficacy from 49% to 83% could be obtained with the extract solved in water when 0.1% Tween 20 was added. The relatively high aphidical efficacy of extracts of O. sanctum cannot be attributed to the effect of eugenol, the main principle of the essential oil; more likely different compounds contribute to the observed effect.


Das in Fernost als Gewürz geschätzte Ocimum sanctum Linnaeus (Lamiaceae) wird in Thailand in Mischkultur mit Kohl angebaut, um Insekten abzuwehren. — Im Labor wurden ethanolische sowie

* Pflanzliche Insektizide VII; Klingauf et al [1987]: Pflanzliche Insektizide VI
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