

عنوان مقاله:

Integration of leaf extracts from *Helianthus annuus* and varietal resistance in the control of *Sitotroga cerealella* (Lep.: Gelechiidae) infesting paddy rice

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نویسندگان:

Adenike Christy Adeyemo - Storage Research Laboratory, Department of Biology, School of Science, Federal University of Technology, P. M. B Yof Akure, Ondo State, Nigeria

Michael Olufemi Ashamo - Storage Research Laboratory, Department of Biology, School of Science, Federal University of Technology, P. M. B Yof Akure, Ondo State, Nigeria

Olusola Olasumbo Odeyemi - Storage Research Laboratory, Department of Biology, School of Science, Federal University of Technology, P. M. B Yof Akure, Ondo State, Nigeria

خلاصه مقاله:

The bioactivity of leaf extracts of *Helianthus annuus* L. against *Sitotroga cerealella* (Olivier) in stored paddy rice varieties was evaluated in the laboratory of the Federal University of Technology, Akure, Nigeria at ambient temperature of 28 ± 2 °C and $75 \pm 5\%$ relative humidity. Standard methods were used to determine toxicity of the plant powders and extracts, to *S. cerealella* based on weight loss, adult emergence, adult mortality and developmental periods. Paddy rice from previously categorized susceptible and moderately susceptible varieties was used for the research work. The adult mortality was assessed at 24, 48 and 72 hours of application. The solvent extracts of the plant significantly reduced or prevented adult emergence of *S. cerealella*. Also there was an increase in the developmental period ($P > 0.05$) and reduction or prevention of seed weight loss. Adult mortality of 100% was observed in *S. cerealella* in paddy treated with 4% petroleum ether leaf extract in FARO 44 as compared with 100% mortality in FARO 52 paddy treated with 3% petroleum ether leaf extract. Lowest adult moth mortality of 30.33% and 35.20% were observed in 1% ethanolic leaf extract treated in FARO 44 and FARO 52 respectively. Results showed that *H. annuus* plant parts in combination with the susceptible paddy variety, FARO 52 increased mortality of adult *S. cerealella* and prolonged developmental periods. Both the powder and the extracts of this plant could be produced on commercial scale and incorporated into pest management programmes.

کلمات کلیدی:

Helianthus annuus, *Sitotroga cerealella*, paddy rice varieties, Susceptibility, mortality

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