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**Abstract
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caged insects, they presented attraction, but with the females having a stronger response of movement towards the insect cages. When the number of mixed-sex caged adults was increased to 200, the single male and female introduced in the tube both moved towards the insect cages.

SE46 003

STUDIES ON BIOLOGY AT DIFFERENT TEMPERATURE REGIMES AND SCREENING OF INDIGENOUS STORED RICE CULTIVARS AGAINST RICE WEEVIL, SITOPHILUS ORYZAE (L.)

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Rice is one of the most widely grown cereals with high global recognition and food value. In stored conditions, the most notorious pest of rice is Rice weevil (*Sitophilus oryzae*). Therefore, the present experiments were conducted to study on biology of Rice weevil, *Sitophilus oryzae* (L.) at different temperature regimes i.e., $20\pm 1^\circ\text{C}$, $25\pm 1^\circ\text{C}$ and $30\pm 1^\circ\text{C}$. and Varietal screening of different indigenous cultivars of stored rice grains against Rice weevil (*S. oryzae*). The experiments were conducted in Entomology laboratory of School of Crop Protection, CPGS-AS, CAU(I), Umiam, Meghalaya. The result of present study showed that the morphometrics of the eggs, larva and pupa were found to be smallest at $20\pm 1^\circ\text{C}$ and largest at $30\pm 1^\circ\text{C}$ with a range such as Egg: length (0.24 ± 0.03 to 0.47 ± 0.03) mm and breadth (0.09 ± 0.02 to 0.19 ± 0.03) mm, Larva: length (0.22 ± 0.03 to 6.37 ± 0.34) mm and breadth (0.08 ± 0.01 to 2.40 ± 0.03) mm, Pupa: length (2.56 ± 0.60 to 4.45 ± 0.43) mm and breadth (1.39 to 2.45 ± 0.51) mm at $20\pm 1^\circ\text{C}$. The hatching percentage of eggs of *S. oryzae* was maximum (81.7 ± 12.6) per cent at $30\pm 1^\circ\text{C}$ and minimum (25.0 ± 10.0) at $20\pm 1^\circ\text{C}$. It is concluded that the variety Jowain white showed higher percent weight loss at 30 days (9.5 ± 0.2), 60 days (15.2 ± 0.1) and 90 days (20.4 ± 0.2). The variety Lakang baleigh showed lowest weight loss percent at 30 days (2.5 ± 0.3), 60 days (4.2 ± 0.1) and 90 days (8.3 ± 0.3). The variety Jowain white had highest susceptible index (13.9 ± 4.5) followed by Pnah sticky (13.6 ± 1.5), Jowain red (13.1 ± 1.9) and the variety Lakang baleigh showed least susceptible index (6.6 ± 1.9). Growth index was found to be highest in the cultivar Mynri umiam (1.90 ± 0.08). Considering the findings of the present study may be concluded that Prolonged storage of rice in lower temperature is beneficial and among the local varieties evaluated Lakang baleigh was found to be relatively resistant to the pest *S. oryzae*.

SE46 004

THE USE OF SIGS (SPRAY-INDUCED GENE SILENCING) STRATEGY IN THE CONTROL OF BOTRYTIS CINEREA IN HORTICULTURAL CROPS

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The causal agent of the gray mold disease, *Botrytis cinerea*, is one of the main limiting factors of horticultural crops production worldwide. Its control is very dependent on the

use of fungicides; however, due to the ability of this pathogen to develop resistance and the new European legislation regarding the reduction of fungicide diversity available for grower in the next years, new advances and technologies are needed to control this important harvest and postharvest disease. In this study, the potential of the RNA interference (RNAi) technology known as "spray-induced gene silencing" (SIGS) as an alternative for the management of *B. cinerea* was explored. For this purpose, a double-stranded RNA (dsRNA) molecule was designed to target the transcription factor *mrr1*, which is involved in the overexpression of the ABC transporters (drug efflux transporters) and the resistance to several commercial fungicides. To test the efficacy of *mrr1*-dsRNA, dsRNA uptake by the fungus, sensitivity assays (effect on conidia germination, detached leaf, and fruit assays), fungal biomass analysis and gene expression studies were carried out. The results showed that the fungus was able to uptake it, reducing the conidia germination of the pathogen. Subsequently, it was shown, in in vivo assays performed on tomato leaves and apple fruit, that the application of *mrr1*-dsRNA downregulated *mrr1* gene expression and its silencing produced a significant reduction of *B. cinerea* development, resulting in a reduction of the fungal biomass. These results demonstrated the potential of the SIGS strategy for the control of *B. cinerea* and *mrr1*-dsRNA as a new molecule with fungicide activity that could be included into the several strategies carried out for sustainable plant protection control programs in the field.

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SE46 005

SEED STORAGE FUNGI AND AFLATOXIN CONTAMINATION IN SESAME IN BENUE STATE, NORTH CENTRAL NIGERIA

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Storage of Sesame (*Sesamum indicum*, L.) is gaining more ground among the farmers and users of the crop in Benue state, North central Nigeria in order to maximize profits or for evacuation for exports and seed for planting. These expected benefits usually fail due to fungi infestation and their attendant aflatoxin contamination. Using direct plating technique; the study identified twelve species of fungi genera and various concentrations of aflatoxin contamination. The percentage occurrence of fungi isolates shows *Aspergillus flavus* and *A. niger* being dominant and significantly higher than ($P\leq 0.05$). High power liquid chromatography (HPLC) analysis revealed four (4) types of aflatoxin namely: AFB1, AFB2 AFG1 AND AFG2 with $3.95-11.75\mu\text{g/kg}$, $0.00-2.35\mu\text{g/kg}$, $0.00-2.06\mu\text{g/kg}$; $0.00-1.47\mu\text{g/kg}$ respectively showing AFB1 with the highest frequency occurrence of $3.95-11.75\mu\text{g/kg}$. All the values were above the Maximum Residual limits (MRL) of