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REPELLENT ACTIVITY OF CARDAMOM, GINGER AND NUTMEG AGAINST CERTAIN INSECT PESTS

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ABSTRACT

Insect pests are responsible for crop wastage, storage losses and tree damage causing significant economic losses all over the world. Common control mechanisms include use of synthetic chemical agents to repel or kill the insect pests which are found to be associated with health and environmental hazards. Certain plants are historically used for their repellent properties against insects, particularly in storage of food crops and considered to be generally safe for use. This study was planned to investigate the repellent activity of certain plant extracts against three common insect pests.

Plant extracts were prepared and stored at 4°C before use. Insect repellency was tested against insects. Repellency scores were recorded and statistically analyzed.

Results showed that these plant extracts demonstrates effective repellent activity against carpenter ant, mango mealybug and red flour beetle in various concentrations. With increasing concentrations, percent repellency reached 100% after 4-5 hours of exposure. The most effective extract against these insects was nutmeg which showed 100% repellency against all insects after 4 hours of exposure. Ethanolic extracts showed better repellent activity than aqueous. It is concluded from the results that these plants are natural sources of repellent material and are potential sources of biological insect repellents.

KEYWORDS: Insect Repellency, Medicinal Plants, Insect Pests, Plant Extracts

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