EFFECT OF SOME PLANTS EXTRACTS ON RICE BLAST

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INTRODUCTION:
Crop protection plays a vital and integral role in modern agricultural production. The ever-increasing demands on yield and the intensification of farming practices have increased the problem of pest damage, and hence control. The use of chemical pesticides has been the main fungal controlling approach during recent decades, but the widespread use of such chemicals has significant drawbacks, such as the development of strain resistance to insecticides (Garriga and Caballero, 2011), increased costs, handling hazards, concerns about insecticide residues, and great threats to both human and environmental health. Public awareness of these problems has increased the interest in finding less hazardous insecticides to replace dangerous synthetic chemicals insecticides (Sutherland, 2002). One such alternative is the use of botanical insecticides (Baskar et al., 2009). The aim of this research is investigate effect of some plant extracts on rice blast disease.

Keywords: Plant extracts, Rice blast, Fungal, Crop protection

MATERIALS AND METHODS:
The dried part of each plant were ground and extracted with MeOH at room temperature. The solvent was removed under vacuum at 40 °C to yield a solide residue. Then residues were washed with polar and non-polar solvents and in the follow, the evaporation in vacuum yielded residues, respectively. The extracts were assayed against rice blast by broth micro-dilution assay, to determine the minimal inhibitory concentrations (MIC).

RESULTS AND DISCUSSION:
The crude hydroalcoholic extract obtained from dried part of each plant were assayed for antifungal properties with microdilution-technique assays, against a clinical isolate of rice blast showing a strong activity with MIC of 400.0 μg mL⁻¹.

REFERENCES:
Garriga, M., Caballero, J., 2011. Insigths into the structure of urea-like compounds as inhibitors of the juvenile hormone epoxide hydrolase (JHEH) of the tobacco hornworm Manduca sexta: Analysis of the binding modes and structure-activity relationships of the inhibitors by docking and CoMFA calculations. Chemosphere 82, 1604-1613.