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RESEARCH ARTICLE

Antifungal activity of plant latex extracts against resistant isolates of pathogens associated on (*Rumex acetosa* L.)

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SUMMARY

The *in vitro* antifungal potency of four plant latex extracts were evaluated for their botanical fungi toxicants on pathogenic fungi of *Rumex acetosa* L.The antifungal effect of aqueous extracts of latex namely, *Jatropa curcus*, *Calotropis gigentea*,*Ficus bengalensis* and were selected. The inhibitory effect was tested by food poisoning technique and determined minimum inhibitory concentration (MIC). Due to the presence of bioactive molecules the latex extracts showed significant inhibition in different concentrations. *Jatropa curcus* latex extract showed 100 per cent reduction of radial growth of *Alternaria alternata* and *Fusarium oxysporum* at75 per cent conc. In some extent, *F. bengalensis* also showed significant reduction of *A.alternata* at 100 per cent conc. The inhibitory effect of *F. glomerata* was also shown in case of *F.oxysporum* at 100 per cent conc.

Key Words : Fenugreek, Pathogens, Medicinal plants latex, Antifungal activity

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Fenugreek (*Trigonella foenum-graecum* L.) is one of the oldest medicinal plants, originating in India and northern Africa. In India, fenugreek is commonly consumed as a condiment, used medicinally as a lactation stimulant and used for numerous indications, including labor induction, aiding digestion, and as a general tonic to improve metabolism and health (Yoshikawa *et al.*, 1997; Ethan Basch *et al.*, 2003).

Latex is a stable dispersion of naturally occurring polymer micro particles in an aqueous medium. It is found in 10 per cent of all angiosperms. This complex emulsion consisting of alkaloids, starches, sugars, oils, tannins, resins and gums that coagulates on exposure to air. It is also rich in enzymes like proteases, glucosidases, chitinases and lipases. It has been demonstrated that this substance is a source of natural fungicides (Barkai-Golan, 2001) which is regarded as both safe and effective against various diseases of banana, papaya and other fruits. The water-soluble fraction of papaya latex can completely digest the conidia of many fungi, including important postharvest pathogens (Indrakeerthi and Adikaram, 1996).Other latex extracted from several plants showed a strong antifungal activity against *Botryti cinerea*, *Fusarium* sp. and *Trichoderma* sp. (Barkai-Golan, 2001).

Fungicides belong to a group of pesticides which inhibited fungal growth either causing damage to the cells or preventing the fungal development. As pesticides, they offer great economic and social benefits through the protection and preservation of materials, food and the prevention of diseases. Since pesticides are designed specifically to fight harmful or even dangerous life forms and therefore, are toxic to them, they may present hazards to the environment by their potential effect upon non-target organisms, including humans, particularly when misused. The need to balance these benefits against the risks presents a challenge to the EPA (Environmental Protection Agency) unlike other chemicals. The aim of this study was to evaluate the antifungal activity of some medicinal plant used in Ayurveda and traditional medicinal system for treatment of manifestations caused by pathogens.

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