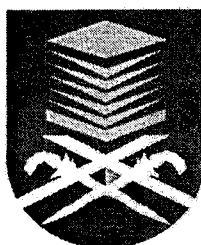


**ANTIFUNGAL ACTIVITIES OF *ENTADA SPIRALIS* CRUDE  
EXTRACTS AGAINST DAMPING OFF DISEASE**



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**DECEMBER 2009**



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Tuan/Puan,

## TAJUK PROJEK FRGS : "ANTIFUNGAL ACTIVITIES OF ENTADA SPIRALIS CRUDE EXTRACTS AGAINST DAMPING OFF DISEASE"

Dengan hormatnya perkara di atas adalah dirujuk.

Terlebih dahulu IRDC mengucapkan terima kasih di atas kerjasama puan mengemukakan pembetulan ke atas penggabungan projek penyelidikan dan bajet yang baru mengikut kos seperti yang diminta oleh pihak Kementerian Pengajian Tinggi Malaysia.

Dengan ini IRDC meluluskan projek penyelidikan puan dengan syarat-syarat seperti berikut :

1. Kos yang diluluskan ialah sebanyak **RM33,000.00** dan tempoh projek penyelidikan ini ialah 2 tahun, iaitu bermula **15 September 2007**.
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## ABSTRACT

*Entada spiralis* which is traditionally known as 'beluru' or 'sintok' is a liana or woody climber that grows wildly in Malaysia. From generation, it is believed that the stem bark and its fruit were used traditionally for many years in the health care system such as shampoo, body wash and to treat syphilis, insect bites and blood defecate. However, the stem bark and the leaves of this species have not been studied pharmacologically by any researchers. Our current study is carrying out the extraction of stem bark and leaves of *Entada sp.* by using organic solvents with different polarity and to test the bioactivity of the crude extraction. The ground air dried stem and leaves were soaked at room temperature in petroleum ether, chloroform and methanol. Bioactivity of the crudes extracts of both stem and leaves were tested on antimicrobial activity. Four species of fungal plant pathogens were tested for antifungal activity i.e. *Rhizoctonia solani*, *Pythium sp.*, *Fusarium sp.* and *Phytophthora sp.* And four species of bacterial pathogens i.e. *Xanthomonas citri*, *Erwinia sp.*, *Pseudomonas sp.* and *Bacillus subtilis*. The *in vitro* antimicrobial activities of *Entada sp.* extracts against bacterial revealed the inhibition zone observed for *Bacillus subtilis* for all crude extracts of leaves and methanol crude extract and chloroform crude extracts for stem. The crude extracts of leaves slightly inhibited the *Xanthomonas citri* regarding to the little trace of inhibition zone. On the other hand, no inhibition zone occurs for *Pseudomonas sp.* and *Erwinia* for all crude extracts of leaves and stem. The *in vitro* antifungal activities of *Entada sp.* extracts against fungal plant pathogens revealed that the

methanolic crude extract of the stem give a very good inhibition against *Fusarium sp.* whereas there is no inhibitions occur on *Rhizoctonia solani*, *Pythium sp.* and *Phytophthora sp.*. The leaves crude extracts of *Entada sp.* do not shows any inhibition activities against all tested fungal pathogens.