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Physiological profiling of *Colletotrichum falcatum*, the causal agent of Sugarcane Red rot disease

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Growth of fungi *Colletotrichum falcatum*, a sugarcane red rot pathogen, to different ranges of temperature and pH were studied. Results indicated that nine *C. falcatum* isolates had variations in their tolerance to different abiotic stress conditions, they were exposed. Though more alkaline and acidic liquid media have shown mycelial growth to certain extent, pH value 6 was optimum for pathogen growth. Highest dry mycelial were recorded for isolate cfGAN (662.3mg) on liquid media. Among the temperature range studied, 28-32°C supported significantly the maximum growth of all the isolates. Out of nine isolates, cfKAM reached its best up to 8.5cm mean mycelial diameter on OMA after seven days of incubation at 28°C. This information is useful for prediction of environmental and soil condition for infection period in field. This study reveals that lower temperature and slight acidic condition of soil can promote the disease.

Key words: Sugarcane, red rot, *Colletotrichum falcatum*, pH, temperature, pathogen, disease