

Research Article**Antifungal Activity of Chitosan and Chitooligosaccharides Against Red Rot of Sugarcane Incited by *Colletotrichum falcatum* Went.****Deepmala Katiyar¹, A Hemantaranjan¹ and Bharti Singh²**¹Departments of Plant Physiology, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi, India;²Department of Microbiology, Institute of Medical Sciences, Banaras Hindu University, Varanasi, India; E- mail: deepmala.katiyar@gmail.com**Abstract**

Chitosan polymer and its oligomers, chitooligosaccharides (COS) suppressed *Colletotrichum falcatum* inciting red rot of sugarcane under *in vitro*. Per cent growth inhibition of the mycelial growth of *C. falcatum* by chitosan ranged from 72.3 to 79.6 per cent. However, COS was comparatively inferior in inhibiting the mycelial growth of red rot pathogen, which ranged from 2.85 to 3.0 per cent. The concentration of 0.6 per cent of chitosan expressed the maximum growth inhibition of 79.6 per cent. Besides, chitosan and its combination with plant growth promoting bacteria have had synergistic action and expressed the maximum antifungal activity against *C. falcatum*.

Key words: Antifungal activity, chitosan, *Colletotrichum falcatum*, COS, sugarcane**Citation:** Katiyar Deepmala, Hemantaranjan A and Singh Bharti. 2016. Antifungal activity of chitosan and chitooligosaccharides against red rot of sugarcane incited by *Colletotrichum falcatum* Went. *J Mycol Pl Pathol* 46(3): 224 – 228.