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Biological control for charcoal rot (*Macrophomina phaseolina*) of sesame

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Sesame (*Sesame indicum* L.) is one of the most ancient oil seed crops cultivated in tropical and subtropical countries. Irrespective of the agro climatic conditions, sesame is infected by various pathogenic fungi. Among the fungal diseases, charcoal rot of sesame caused by *Macrophomina phaseolina* (Tasi) Goid is the most devastating, causing up to 55% or more disease incidence in field resulting in heavy yield losses. The pathogens survive as Sclerotia in the soil and in host tissue for varying periods. The pathogen attacks plant at all growth stages and causes pre emergence rotting in seeds, soft rot in emerging seedlings and charcoal rot in mature plants. Due to soil borne nature, practically no effective field control and no resistance variety is available so far. Thus, management of charcoal rot by fungicides is expensive and not eco-friendly. Biological control of plant disease is cost effective and environmentally safe. A field experiment was conducted on sesame during *Kharif* 2013 to find out the effect of *Trichoderma viridae* on incidence of charcoal rot disease in sesame. On the basis of the observation recorded viz., no of capsule/plant, yield/plot/ha and 1000 seed weight it was concluded that the, seed treatment with *Trichoderma viridae* (5g/kg seed) and before sowing mix in soil (2.5 kg/ha) were found effective and economical for the management this disease.

Biography

Kailash N Gupta, graduated and post graduated from Faculty of Agriculture Plant Pathology, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur-482004. Dr. Gupta has completed his PhD from JMI, A Central University New Delhi. He worked as several ICAR institutes viz., Division of Plant Pathology, NRL, Indian Agricultural Research Institute, New Delhi, Central Institute for Cotton Research, Nagpur and Bihar Agricultural University Sabour and joined as Assistant Professor cum Scientist of Plant Pathology in Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur-482004, India. He has published more than 20 Research papers in reputed National and International journals, 35 abstracts, one book chapter, 10 technical bulletins and 30 popular articles during the tenure.

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