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# *Sclerotinia* stem rot: A Threat to Brassica cultivation

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## Abstract

*Sclerotinia sclerotiorum* (Lib.) de Bary causes stem rot in *Brassica* and 400 other plant species. Sclerotinia rot is menace to cultivation of oilseed *Brassica* crops worldwide. Infection of pathogen occurs on the leaves, stems and pods at different developmental stages of plant causing seed yield losses of up to 80% as well as significant reductions in oil content and quality. The initial symptom on stem appears as elongated water-soaked lesions that expand rapidly and move down to the petiole into stem. Sometimes, during ascospore liberation, the infection also observed on leaves as shot hole symptoms. Release of ascospores and their survival are potentially important factors for the development of disease and in the life cycle of this pathogen. Isolates of *S.sclerotiorum* showed a high level of morphological variability and molecular diversity with varied level of aggressiveness. Management of the pathogen is difficult and inconsistent due to the presence of wide host range and long-term survival of the resting structures. Complete resistance against this pathogen has not been reported so far. However, partial resistance was being observed in some *Brassica* genotypes including *B. carinata*. The *Brassicaceae* family comprising wide array of different species, wild crucifers have also been observed to show high level of resistance against Sclerotinia disease. Application of fungicides, bio-agents and crop rotation are currently the major approaches of managing the disease. Different soil amendments, micronutrients, plant extracts, fungicides and bio-agents were evaluated through soil application, seed treatment and foliar spray. Seed treatment and foliar spray of carbendazim proved potential in management of Sclerotinia stem rot.

## Biography

Pankaj Sharma, Senior Scientist is working at Directorate of Rapeseed-Mustard Research (ICAR), Bharatpur, Rajasthan. He has excellent contributions in Plant Pathology and presently working on *Sclerotinia sclerotiorum* causing stem rot in oilseed *Brassica*. With an extension, teaching and research experience of more than 11 years, he published 82 research, proceeding papers, research notes and reported twenty new disease reports published in journals of national and international repute. Dr. Sharma attended 37 national and international seminar/conference and published 81 abstracts. He has visited University of Melbourne, Melbourne and Ballarat in Australia and also delivered key note speech in 1st World Congress of Microbes at Beijing, China. Dr. Sharma also published 537 popular articles, 18 extension folders, 4 technical bulletins, three books edited and delivered 220 TV talks and 35 radio talks. He also credits in his account several awards including Best Agriculture Writing Award (3 times), Sh. P.P. Singhal Memorial Pesticide India award (2004 & 2008), Prof. Gangadhar Bhatt Memorial Best research paper award (2007), Vigyan Vibhuti Alankaran (2010), K.S. Bilgrami Best paper presentation award (2010), prestigious Prof. H.C. Dube Outstanding Young Scientist Award (2011), DST visiting travel award (2011), Hindi team award (2011). He was also awarded Fellows of Plant Protection Association of India, Hyderabad (2010) and Society for Plant Protection Sciences, New Delhi (2011). Dr. Sharma is also member of different scientific societies and reviewer of many reputed international and national journals.