Sclerotinia sclerotiorum causing cabbage head rot in Sri Lanka

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Cabbage head rot caused by *Sclerotinia* sp. has not been reported as an economically important disease in Sri Lanka until our unexpected finding of disease prevailing fields in Nuwara Eliya during 2013-2014. *Sclerotinia* is a well-studied genus around the world. However, no research has been done in Sri Lanka. During a preliminary survey it was found that farmers were unaware of the disease and employ improper cultural practices. The objectives of this study were to document the disease incidence of cabbage head rot in selected areas, to determine the pathogen species using morphological and molecular characteristics, to confirm pathogenicity and to test whether Maneb insensitive isolates are present in major cabbage growing areas in upcountry. Sampling was done from 15 randomly selected cabbage fields in Ambewela and Pattipola. A total of 35 sclerotia were collected separately from infected cabbage heads which were at least 3-6 m apart into paper envelopes and brought to laboratory. Sclerotia were surface sterilized, plated in antibiotic amended PDA plates and obtained pure cultures using hyphal tip method. Sclerotia size of each isolate varied from 4 to 10mm, which is the typical sclerotial size of *S. sclerotiorum*. All the isolates were identified as *S. sclerotiorum* based on morphological and cultural characters. Total genomic DNA was extracted from randomly selected two isolates and amplified the rDNA-ITS region using PCR. BLAST searches of ITS sequence confirmed that the sequence was 99% similar to *S. sclerotiorum*. Koch's postulates were carried out using a detached leaf assay on the cabbage cv. Bandon and confirmed the pathogenicity. During the survey no disease free field was found at the maturity of the crop and average disease incidence was 4-5.0 %. Twenty of the randomly selected isolates were tested for the percent inhibition of the mycelial growth by the fungicide, Maneb, amended PDA plates. At 250µga.i./ml discriminatory concentration, five isolates had less than 50% inhibition indicating Maneb insensitive isolates could be present in Sri Lanka. Therefore, early detection and management of the disease is important.