

## INTEGRATED APPROACH FOR THE MANAGEMENT OF PURPLE BLOTCH COMPLEX OF ONION CAUSED BY *ALTERNARIA PORRI* AND *STEMPHYLIUM BOTRYOSUM*

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### Extended summary

The causal pathogen of purple blotch of onion was isolated from the typical diseased specimen collected from the farmer's field of major onion growing area like. Chandina (Comilla), Manikgonj (Dhaka), Taherpur (Faridpur) Nandia (Jamalpur), Kashimpur (Gazipur), Monirampur (Jessore) and Keshobpur (Jessore) of the country and identified as *Alternaria porri*. The causal pathogen of white blotch of onion, *Stemphylium botryosum* was found to be associated with the diseased specimen in most cases. Thus, *Stemphylium botryosum* seemed to be a complementary agent of causing the purple blotch of onion that made a complex situation of the disease. Hence the disease presently named as purple blotch complex. The physiological studies like the effect of temperature, culture media and pH on *Alternaria porri* were conducted in the laboratory. The pathogen found to grow and sporulate well in the temperature ranged from 24-26<sup>0</sup>C. Potato Dextrose Agar (PDA) media is found suitable for the growth of *Alternaria porri* but Onion Leaf Dextrose Agar (OLDA) media found to be the best for its isolation as well as growth and sporulation. The pathogen prefers acidic culture media ranged from pH 4.5-5.5. The laboratory experiments conducted on chemical and botanical control of the pathogen revealed that Rovral 50 WP was the best among the test fungicides. Dithane M-45 also gave promising result in controlling *Alternaria porri*. Among the ten plant extracts assayed against the pathogen did not showed any remarkable inhibitory effect. The epidemiological survey made on the incidence and severity of the disease in the major onion growing areas of Bangladesh showed that the prevalence of purple blotch of onion was relatively higher in Chandina (Comilla), Gazipur and Nandina (Jamalpur) than Taherpur (Faridpur), Kashimpur (Gazipur), Monirampur (Jessore) and Keshobpur (Jessore). The incidence and severity of the disease differed in respect of onion varieties cultivated in the areas.

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