

Emergence of *Nigrospora* leaf blight as major biotic stress in south eastern coastal region of India

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Abstract

Rice is considered to be the staple food crop in India. As per the latest statistics, rice cultivation has reached to 102.36 million tons in 2020-21 (as per 1st advance estimates DES (DAC & FW)). The major rice growing states in India are Odisha, West Bengal, Uttar Pradesh, Punjab, Bihar, Chhattisgarh, Andhra Pradesh, Telengana, Assam and Tamil Nadu. Odisha gain the production of over 8 million metric tons in 2020. Though south eastern coastal belt of Odisha encircled with such a favorable environmental condition for rice growing but every year a heavy yield loss is occurring due to various biotic stresses. Prolonged survey among different districts of south eastern Odisha reflects that *Nigrospora* leaf blight turned to be a major biotic stress for rice cultivation. A severe disease incidence 45-60% with a critical blast like appearance makes the disease disappear by visual observation from other diseases. Typical symptomatic expression shows large eye shaped grayish patch encircled with brownish hallow. The present research describes identification of the causal pathogen as *Nigrospora oryzae* through molecular detection by ITS-r DNA sequencing technology with 99% identity with NCBI *Nigrospora* database. Optimum temperature ranges between 28±2° C coupled with 80-90% relative humidity triggers the disease and turn it to be a major biotic stress. To the best of our knowledge and review of literature this is first report of emerging trend and appearance of *Nigrospora* from south eastern coastal region of Odisha, India.

Key words- Rice, biotic stress, *Nigrospora*, Disease incidence