

INTEGRATED APPROACH FOR THE MANAGEMENT OF PURPLE BLOTCH OF ONION CAUSED BY *Alternaria porri* and *Stemphylium botryosum*.

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Extended summary

The experiments were conducted to determine the efficacy of fungicides, botanicals and nutrients to control the disease incidence and severity of purple blotch complex of onion. On the basis of 1st year results, five chemical fungicides and two botanicals were assayed *in vitro* for the efficacy against *Alternaria porri*. Among the fungicides, Rovral 50 WP @ 0.2% resulted highest reduction of mycelial growth of *Alternaria porri* and *Stemphylium botryosum* followed by Ridomil Gold MZ-72 @ 0.2% and Dithane M-45 @ 0.45% compared to control. Between two botanicals, Neem leaf extract (1:6 w/v) gave better result than Allamanda leaf extract (1:6 w/v) against the pathogens. A field experiment was laid out using onion variety Taherpuri to evaluate nine (9) different treatments combinations viz. Allamanda leaf extract (1:6 w/v) + nutrients, Neem leaf extract (1:6 w/v) + nutrients, Cupravit 50 WP @ 0.7% + nutrients, Rovral 50 WP @ 0.2% + nutrients, Dithane M-45 @ 0.45% + nutrients, Ridomil Gold MZ-72 @ 0.2% + nutrients, Bavistin 50 WP @ 0.1% + nutrients, nutrients alone and untreated control (No fungicides, botanicals & nutrients). The nutrients were Gypsum @ 100 kg/ha, Zinc oxide (ZnO) @ 5 kg/ha and Boric powder @ 5 kg/ha. A significant effect of fungicides and botanicals along with nutrients were found in respect of reducing disease incidence (leaf & seed stalk infection), disease severity (PDI-leaf & stalk). The highest performance in reducing disease incidence and severity of purple blotch complex of onion was found by the application of Rovral 50 WP @ 0.2% + nutrients followed by Ridomil Gold MZ-72 @ 0.2% + nutrients. Between two botanicals, Neem leaf extract along with nutrient performed better than that of Allamanda leaf extract in reducing the disease incidence and severity. The epidemiological survey on the incidence and severity of the disease in the major onion growing areas of Bangladesh was continued and found similar trend of results. The prevalence of purple blotch of onion was found relatively higher in Chandina (Comilla), Gazipur and Nandina (Jamalpur) than Taherpur (Faridpur), Kashimpur (Gagipur), Monirampur (Jessore) and Keshobpur (Jessore). The incidence and severity of the disease differed in respect of onion varieties and environmental condition of the concerned areas. Among the cultivars Faridpur-local (Taherpuri) and Manikgonj-local were found moderately susceptible while the BARI varieties were found susceptible.