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Abstract: Purple blotch of onion was found to be prevalent in all localities surveyed. The disease incidences and intensities varied from 30.25 – 70.50 per cent and 27.30 – 43.10 per cent and 32.25 – 69.00 per cent and 28.70 – 43.85 per cent during Rabi, 2004-05 and 2005-06 crop seasons, respectively, depending on localities. The characteristic symptoms were observed on leaves and seed stalks. Based on morphological features, the incitant was identified as *Alternaria porri*. The pathogen was isolated employing single spore culture, purified and the pathogenicity was confirmed by routine methods. In host range studies, only one plant species *Allium sativum* could be infected experimentally. Transplanting of onion seedlings on November, 14 recorded least PDI being 27.9 and 30.6 per cent with bulb yields of 185.6 q/ha and 180.0 q/ha, respectively, for 2004-05 and 2005-06 crop seasons. The maximum and minimum relative humidity was significantly positively correlated with disease development. The minimum temperature, maximum as well as minimum relative humidity showed significant positive correlation with disease development. Among commercial varieties screened, two varieties viz., Arka Kalyan and N-2-4-1 showed moderately resistant reactions under natural epiphytotics. However, in varietal screening under artificial epiphytotics, lowest mean disease intensity of 29.70 per cent was recorded in the variety, Arka Kalyan. The above variety was followed by N-2-4-1 which recorded 30.73 per cent PDI. The variety, Arka Kalyan recorded maximum fresh bulb yield of 0.057 kg/plant. In in vitro assay of different plant extracts, the media containing *Polyalthia longifolia* extract recorded least mycelial growth (43.03 mm) which was followed by *Eucalyptus citriodora* extract. In in vivo assay of botanicals, Tricure (2.5 ml/L) proved to be most efficacious in reducing mean disease intensity (36.57 %) whereas, Achook and Econeem also applied at the above concentration were statistically at par. The maximum mean bulb yield recorded was 170.12 q/ha in case of Tricure. The above mentioned treatment recorded net returns of Rs.27,303/- and Rs.24,783/- per ha with cost-benefit ratios of 1:27.5 and 1:24.9 during Rabi, 2004-05 and 2005-06 crop seasons, respectively. In laboratory in vitro evaluation of common antagonists, the fungal antagonist, *Trichoderma viride* recorded least mycelial growth (33.75 mm) which was followed by *T. harzianum*. In in vitro fungicidal assay, the fungitoxicant, Hexaconazole (0.1%) recorded 5.55 mm radial growth and 93.2 per cent inhibition over control. In field evaluation, two foliar sprays of Hexaconazole @ 0.1 % afforded maximum control of the disease. The above treatment recorded 22.65 and 23.3 PDI and bulb yields of 181.5 q/ha and 192.7 q/ha during 2004-05 and 2005-06 crop seasons, respectively. The above treatment recorded net returns of Rs.29,190/- and Rs.35,350/- per hectare with cost-benefit ratio of 1:14.5 and 1:17.6.

Description: MANAGEMENT OF PURPLE BLOTCH DISEASE OF ONION CAUSED BY *Alternaria porri*

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