

MORPHOLOGICAL IDENTIFICATION AND BIOCHEMICAL CHARACTERIZATION OF *XANTHOMONAS CAMPESTRIS* FROM MUSTARD AND CABBAGE AND ITS MANAGEMENT BY BACTERIAL ANTAGONISTS

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Received-12.08.2020, Revised-30.08.2020

Abstract: Field experiments were conducted during 2018-19 crop seasons to identify resistant genotypes for the management of black rot caused by *Xanthomonas campestris* pv. *campestris*. Morphological and biochemical characteristics of the pathogen were studied. Symptoms of disease were recorded 40-45 days after sowing in different localities of Meerut district of U.P. The optimum temperature for the growth was found 30°C and white light supported maximum growth of the bacterium. Disease was characterized by the initial symptoms appeared as dark color streaks on the stem from ground level, which girdle the stem making very soft and hollow followed by rotting. Lower leaves showed midrib cracking 'V' shaped yellowing on the leaf margin, browning of veins and weathering. Nutritional studies revealed that sucrose gave maximum growth followed by maltose, lactose, dextrose and fructose as the carbon source in the nutrient broth. Black rot of cabbage pathogen also infected other crops of cruciferae family such as cauliflower, mustard, radish and rapeseed. These findings regarding the pathogen may help to formulate the more appropriate way and judicious application of different management options against the disease in this zone.

Keywords: Cabbage, Mustard, *Xanthomonas campestris* pv. *Campestris*

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