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Novel studies on the efficacy of synthetic fungicides against fusarium wilt of tomato under tunnel farming condition

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Tomato (Lycopersicon esculentum Mill.) is the most important solanaceous vegetable crop of the world as well as of Pakistan. It is susceptible to various diseases in tunnel farming conditions, which cause huge losses. Among them; Fusarium wilt is one of the most destructive disease. This study was conducted to test the efficacy of synthetic fungicides viz., Metalaxyl+Mancozeb, Copper oxychloride, Benalaxyl+Mancozeb, Carbendazim and Mancozeb at different concentrations (2, 2.5, 3, 3.5, 4 g/litre water) through soil drench method against Fusarium wilt of tomato caused by Fusarium oxysporum f. sp. lycopersici and also to observe the impacts of fungicides on plant height and yield under the tunnel farming condition. The result revealed that Copper oxychloride was significantly highly effective in all its doses as compared to control treatment. The most effective dose was 3 g/l where the disease severity was 6.2% only, followed by Metalaxyl+Mancozeb (4g/l) in which the disease severity was 9.6% as compared to control (76.6%). Other fungicides also showed good results, but Mancozeb alone was not effective. The highest plant height and yield was recorded in plants treated with Copper oxychloride followed by Metalaxyl+Mancozeb. It is concluded that Copper oxychloride was the most effective fungicide against the Fusarium wilt disease under tunnel farming conditions.

Biography

Adnan is a Plant Pathologist by profession at Agriculture Research Institute. Vegetable wing, Quetta, Pakistan; he has seven years of work experience in fungal disease diagnosis of vegetables, identification and their management. At the same time he is pursuing his Doctor of Philosophy (P.hD) degree from Sindh Agriculture University Tandojam, Pakistan.