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Comparative efficacy of different fungicides against late blight diseases of potato incited by *Phytophthora infestans* (Mont.) de Bary

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Some plant infections can pulverize potato plot. Late scourge is one of these overwhelming parasitic maladies that assaults the potato field and devastate the potato field. In spite of the fact that this staggering infection can be controlled by utilizing conventional fungicides like carbendazim or metalaxyl, plant development. The objective of this present research is to standardize the protocol by which late blight diseases can be controlled easily without inhibition of the plants growth and its yield. Efforts made in present investigation to evaluate the concentration of few commonly used fungicides for their comparative efficacy against *Phytophthora infestans* (Mont.) de Bary, the incited of late blight, for its highest (99.70%) percentage of disease control and the highest yield (26.68 MT/ha) were recorded on fungicides containing 3.5 mg/L sunoxanil 72 WP (cymoxanil 8%+mancozeb 64%) with 3.0 ml/L contaf 5 EC (hexaconazol 5%) during 2015-2016. The lowest (75.68%) percentage of disease control and the lowest yield (15.67 ton/ha) were recorded on fungicides containing 2.0 mg/L ridomil MZ 72 (metalaxyl 8%+Mancozeb 64%) with 1.0 ml/L autostin 50 WDG (carbendaxim 50%) during 2014-2015. It was concluded that sunoxanil 72 WP (Cymoxanil 8%+Mancozeb 64%) acted as the best fungicide when applied as prophylactic measures. Sunoxanil 72 WP (Cymoxanil 8%+Mancozeb 64%) was combined with contaf 5EC (hexaconazol 5%) or actiphose (phosphorous acid) showed the best result when applied as curative measures. Plant growth as well as its yield gradually decreased due to the application of carbendaxim and metalaxyl. It is a new finding, although metalaxyl and carbendaxim play on vital role to protect the late blight after appearance the disease, the plant growth, tuber formation along with the yield was gradually inhibited. Therefore, it is recommended that metalaxyl and carbendaxim application should be avoided to protect the late blight after or before appearance the disease.

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