

Morpho-physiological Studies and Management Strategies of *Alternaria tenuissima* (Kunze ex Pers.) Wiltshire Causing Dieback Disease of Chilli

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Abstract

India is one of the major chilli producing country in the world. Insect pest and diseases are one of the major constraints that attribute to low production and productivity in India. Dieback caused by *Alternaria tenuissima* (Kunze ex Pers.) Wiltshire is one of the most important disease of chilli that affecting all the plant parts. In vitro effect of temperature pH and different nano compounds on the growth of *Alternaria tenuissima* showed that maximum mycelial growth (80.00 mm) was observed at 25°C while minimum mycelial growth (4.67 mm) at 10°C. Among different pH level, maximum mycelial growth 90.5 mm was recorded at pH 6.5 whereas minimum mycelial growth was recorded at pH 4.5. Maximum inhibition (71.92%) was recorded in silver nanoparticles @100 µg ml⁻¹ which was found at par with aluminium nanoparticles @ 100 µg ml⁻¹ (70.57%). Under field condition all the tested fungicides were found to be significantly superior over check in reducing incidence and severity of dieback disease of chilli. The minimum mean disease incidence and severity was recorded in Azoxystrobin 125 SC + Flutriafol 125 SC @ 14.28+14.28 g a.i ha⁻¹ 11.83% and 10.67% followed by Azoxystrobin 125 SC + Flutriafol 125 SC @ 12.5 + 12.5 g a.i.ha⁻¹ 14.92% and 14.0% over control respectively. The minimum mean fruit rot and maximum marketable yield were found in Azoxystrobin 125 SC + Flutriafol 125 SC @ 14.28+14.28 g a.i ha⁻¹ 30.54 q/ha and 25.51 q/ha followed by Azoxystrobin 125 SC + Flutriafol 125 SC @ 12.5 + 12.5 g a.i.ha⁻¹ 35.35q/ha and 24.61 q/ha respectively. The present studies concluded that Azoxystrobin 125 SC + Flutriafol 125 SC @ 14.28+14.28 g a.i ha⁻¹ could be used for the management of dieback disease and increase the yield of chilli.

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Biography

The Kumar A works at the Bihar Agricultural University in India. Kumar A is completed his

Ph.D. He has many research works and he published so many articles in different journals. He is a great speaker he talks about the plant biology and agriculture.