

Research Article

Survey and Integrated Management of Opium Poppy Downy Mildew Caused by *Peronospora arborescens* (Berkeley) de Bary

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Abstract

Downy mildew (DM) caused by *Peronospora arborescens* is the most destructive disease of opium poppy which assumes considerable importance in India and other poppy growing countries. The study was aimed to survey and integrated management of DM in opium poppy. Disease severity index of downy mildew in surveyed districts of different Agro-climatic zones (IVA, IVB and V) of Rajasthan were ranged from 14.97 to 56.25 per cent in the Rabi season of 2016-17 and 2017-18. The module consisting of soil application with sulphur dust @ 4g sqm⁻¹ i.e. 40 kg ha⁻¹ + soil application (SA) with neem cake @ 100g sqm⁻¹ + seed treatment (ST) with Metalaxyl @ 8g kg⁻¹ seed + *Trichoderma viride* @ 10g kg⁻¹ seed was found best effective with minimum disease incidence (16.42) and maximum dry latex yield (26.04 kg ha⁻¹), seed yield (875.96 kg ha⁻¹) and capsule yield (890.65 kg ha⁻¹) followed by module comprising of soil application (SA) with neem cake @ 100g sqm⁻¹ + seed treatment (ST) with Metalaxyl @ 8g kg⁻¹ seed + *T. viride* @ 10g kg⁻¹ seed with PDI (21.42%), dry latex yield (22.38 kg ha⁻¹), seed yield (736.88 kg ha⁻¹) and capsule yield (867.52 kg ha⁻¹). Integration of chemicals, biological and cultural practices are safer and cost effective disease management option for opium poppy growers.

Key words: Downy Mildew, management, opium poppy, *Peronospora arborescens*

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