



KrishiKosh (कृषिकोश)

(/) An Institutional Repository of Indian National Agricultural Research System



(/)

[Advanced Search \(/advanced-search\)](/advanced-search)

[Krishikosh \(/\)](#) / [Birsa Agricultural University, Ranchi \(/handle/1/93542\)](#) / [Thesis \(/handle/1/93550\)](#)

Please use this identifier to cite or link to this item: <http://krishikosh.egranth.ac.in/handle/1/5810026346>

Authors: [Murmu, Hari Pada \(/browse?type=author&value=Murmu%2C+Hari+Pada\)](/browse?type=author&value=Murmu%2C+Hari+Pada)

Advisor: [Akhtar, Jameel \(/browse?type=author&value=Akhtar%2C+Jameel\)](/browse?type=author&value=Akhtar%2C+Jameel)

Title: POPULATION BIOLOGY AND MANAGEMENT OF *Fusarium oxysporum* f. sp. lentis CAUSING WILT OF LENTIL

Publisher: Birsa Agricultural University, Kanke, Ranchi, Jharkhand

Language: en_US

Type: Thesis

Pages: 98

Agrotags: null

Keywords: POPULATION BIOLOGY AND MANAGEMENT OF *Fusarium oxysporum* f. sp. lentis CAUSING WILT OF LENTIL

Abstract: Lentil (*Lens culinaris* M.) is an important pulse crop grown in Jharkhand state. Wilt of lentil caused by *Fusarium oxysporum* f. sp. *lentis* is responsible for significant reduction in plant stand and yield across the state. Survey was carried out at different locations in Sahebganj, Garhwa and Ranchi districts of Jharkhand during, 2008-09 and 2009-10 and the disease was noticed in all locations with severity varying from 5.36- 36.33%. The disease appeared at all growth stages. But observations revealed that major loss occurs due to wilting at flowering / pod formation stage. Out of 12 isolates isolated from different locations, only three isolates viz., Folsbj 3, Fol-grw 3 and Fol-rnc 5 had some variation in their morphological and cultural characters. Bioassay revealed that more or less all the three isolates were equally sensitivity to fungicides and bioagents. Though there was morphological variation, but host differential characterization revealed that all the three isolates belong to same race. Physiological study revealed that the pathogens' growth and development is greatly influenced below or above 27±1°C. Among fungicides, carbendazim as seed treatment at 2.0 g/kg seed proved best in minimizing wilt of lentil. Among bioagents, *Trichoderma harzianum* as seed treatment at 5.0 g/kg seed proved best in minimizing wilt of lentil. Organic amendments viz., neem cake, karanj cake, mustard cake and *Trichoderma* precolonized FYM revealed that except *Trichoderma* precolonized FYM @ 0.2 kg/m² there was no significant reduction in wilt in any organic amendment. Among all the treatments, integration of carbendazim as seed treatment @ 2.0g/kg seed alongwith soil application of *Trichoderma* pre-colonized FYM @ 0.2 kg/m² gave best result. Out of 38 genotypes, only four genotypes including LL 985, VL 133, VL 515 and VL 517 were identified as resistant donors. Experimental findings suggest that if carbendazim as seed treatment is used alongwith *Trichoderma* pre-colonized FYM, this disease can be managed easily even in moderately susceptible cultivars. Moreover, it will help in reducing the use of fungicide and improving soil health thereby environment eco-friendly.

Description: POPULATION BIOLOGY AND MANAGEMENT OF *Fusarium oxysporum* f. sp. *lentis* CAUSING WILT OF LENTIL

Subject: Plant Pathology

Theme: POPULATION BIOLOGY AND MANAGEMENT OF *Fusarium oxysporum* f. sp. *lentis* CAUSING WILT OF LENTIL

These Type: M.Sc

Issue Date: 2010

Appears in Collections: Thesis (/handle/1/93550)

Files in This Item:

File	Description	Size	Format
------	-------------	------	--------


1262 Hari Pada Murmu.pdf

2.91 MB Adobe PDF



[View/Open \(/displaybitstream?handle=1/5810026346\)](/displaybitstream?handle=1/5810026346)

[Show full item record \(/handle/1/5810026346?mode=full\)](/handle/1/5810026346?mode=full)

 [\(/handle/1/5810026346/statistics\)](/handle/1/5810026346/statistics)

Items in DSpace are protected by copyright, with all rights reserved, unless otherwise indicated.