

Impact of Society on Plant Pathology*

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Key words: society, agricultural science, plant pathology

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Mini Review**Plant Disease Management Strategies under Changing Climatic Scenario*****Suman Kumar**

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**Suman Kumar****Abstract**

Disease outbreaks occur with changes in climatic conditions such as temperature and moisture that favor the growth, survival and dissemination of pathogens. A change in climatic condition can help or force the disease to expand its normal range to new environments and leads to epidemic. Global climate changes especially increased CO₂ temperature and moisture levels are thought to influence or change all the elements of a disease triangle. The most obvious effect of climate change is on global mean temperature which is expected to rise between 0.9 and 3.5 C by the year 2100. This increase in temperature can modify host physiology and resistance. Increased CO₂ would affect the physiology, morphology and biomass of crops, by promoting the development of some rusts and other foliar diseases. High moisture (rainfall) favors most of the foliar diseases and soil borne pathogens. Climate change can have positive, negative or neutral impact on disease management due to more pathogen generations per season, evolution of aggressive pathogenic races which may cause threat to resistance may affect the efficacy of crop protection chemicals by altering the dynamics of fungicides residues on the crop foliage, uptake, translocation and metabolism of systemic fungicides. Climate change will cause alteration in the disease geographical and temporal distributions and consequently appropriate control methods will have to be adopted to this new reality. The disease management strategies with changing climatic scenario include monitoring of epiphytotics or conducive environment and host – parasite interactions. Crops like wheat and oats are becoming more susceptible to rust diseases with increased temperature, and dry root rot of chickpea (*Rhizoctonia bataticola*) is becoming more severe in rainfed environments. In the long term it is necessary to select varieties that will tolerate variable climatic conditions and are more disease resistant. From a disease management viewpoint, information is generally required for a specific disease at a field scale. Hence, data on potential impact of climate change on diseases and their dynamics need to be assessed and re-evaluated over a period of time to devise suitable management practices.

Key words: climate change, host-pathogen interaction, management, plant disease

Citation: Kumar S. 2013. Plant disease management strategies under changing climatic scenario. *J Mycol Pl Pathol* 43(2): 149-154.

Mini Review

***In vitro* Cultivation of Arbuscular Mycorrhizal (AM) Fungi**

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Abstract

Arbuscular mycorrhizal (AM) fungal association is essential for most of the vascular plants for their growth and survival. The obligate biotrophic nature of AM fungi makes this association intricate. Several attempts have been made for cultivation and mass inoculum production of this plant beneficial symbiosis. The use of root organ culture (ROC) technique has proved to be particularly successful. This technique has greatly influenced our understanding on various aspects of AM symbiosis. This article provides an update on the developments made in the *in vitro* AM fungal inoculum production and the range of AM fungal species being cultivated using ROC. The method by which ROC of AM fungi have been cultivated is described along with the culture media used, choice of transformed host root to study the interaction, selection and sterilization of different AM fungal propagules and the use of continuous cultures to preserve the colonizing potential of the *in vitro* produced AM fungal inoculum. The morphological features of AM fungal cultures developed under *in vitro* conditions and how these have improved our understanding on this symbiosis are also discussed. Some of the potential uses and limitations of this system are also highlighted.

Key words: arbuscular mycorrhizal fungi, root organ cultures, AM fungal propagules, extra-radical mycelium

Citation: Rodrigues KM and Rodrigues BF. 2013. *In vitro* cultivation of arbuscular mycorrhizal (AM) fungi. *J Mycol Pl Pathol* 43(2): 155-168.

Research Article

Plant Growth Promoting Rhizobacteria Mediated Induced Defence Proteins in Rice Plants against the Sheath Rot Pathogen*

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L Karthiba

Abstract

Twenty-four strains of plant growth-promoting rhizobacterial (PGPR) isolated from different agro-ecosystems of Tamil Nadu, India, and were tested for their efficacy against the sheath rot pathogen *Sarocladium oryzae* *in vitro*, in glasshouse and field during 2011-12. Vigour index was used to assay the growth promotion and antagonistic activity of *Pseudomonas* strains against *S. oryzae* *in vitro*. The results revealed promising antagonistic action by strains Pf1, TDK1 and TV5 compared to other strains. Further, the combination of *Pseudomonas* strains Pf1, TDK1 and TV5 was more effective in reducing sheath rot disease in rice plants compared to individual strains under glasshouse and field conditions. Quantitative and native polyacrylamide gel electrophoresis (PAGE) analysis of peroxidase (PO), polyphenol oxidase (PPO) and chitinase activity in rice plants showed an increased accumulation of defence enzymes in the treatment with a combination of Pf1, TDK1 and TV5 compared to the treatment with individual strains and untreated controls. The present study revealed the probable influence of antagonism, plant growth promotion and induced systemic resistance (ISR) by the mixture of *Pseudomonas* bioformulations in enhancing resistance in rice plants against sheath rot disease. Proteomics analysis revealed the functional analysis of the differential proteins were reported to be directly or indirectly involved in the growth promotion in plants.

Key words: bioformulations, defence proteins, PGPR, *Pseudomonas fluorescens*, *Sarocladium oryzae*, sheath rot, 2-D PAGE

Citation: Karthiba L, Raguchander T and Samiyappan R. 2013. Plant growth promoting rhizobacteria mediated induced defence proteins in rice plants against the sheath rot pathogen. *J Mycol PI Pathol* 43(2): 169-176.

Research Article

Evaluation of Organic Formulations against *Ralstonia solanacearum* causing Bacterial Wilt of Solanaceous Crops

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Abstract

The efficacy of five neem-based formulations viz., Wanis, Spictaff, Neemgold, Neemazal and Achook were evaluated each at 10, 25, 50 and 100 % conc *in vitro* and at 100 and 50 % conc *in vivo* against tomato, brinjal and capsicum isolates of *Ralstonia solanacearum* causing wilt of these crops. *In vitro* evaluation was done by paper disc, spectrophotometer and plate count methods. Of the five organic formulations, maximum inhibition zone against all the isolates at 100% conc was observed in Wanis whereas the spictaff formed the least inhibition zone. Streptocycline, copper oxychloride and their combination showed lower inhibition zones than Spictaff in all the concentrations. Wanis with lower OD and corresponding lower cfu ml⁻¹ at all the four concentrations was most inhibitory followed by Achook and Neemgold. Spictaff with highest colony count was least effective against all the three isolates of *R. solanacearum*. The *in vitro* evaluation of neem-based formulations showed that Wanis at 100% showed maximum survivability of 14.67 d followed by Achook and Neemazal with 14.33 and 13.67 d, respectively. *In vivo* test was done by dipping 20- 25d old seedlings in the above suspensions for different durations i.e. 10 and 30 min, 1, 6 and 12 h. Under *in vivo* test Wanis showed maximum survivability of 14.00 d followed by Achook (13.00 d) and Neemazal (11.67 d) at 100 % conc at 1h dip in tomato isolate. With decreasing order of concentration and dip duration, the survivability also decreased correspondingly in all the treatments when evaluated against brinjal and capsicum isolate.

Key words: bacterial wilts, neem-based organic formulations, *Ralstonia solanacearum*, solanaceous crops

Citation: Pankaj, Sood AK and Kumar P. 2013. Evaluation of organic formulations against *Ralstonia solanacearum* causing bacterial wilt of solanaceous crops. *J Mycol Pl Pathol* 43(2): 177-181.

Research Article**Evaluation of Locally available Plant Materials as Substrates for Growth and Yield of Different Species of Oyster Mushroom under Cold Desert Conditions of Himachal Pradesh****R S Jarial¹, Kumud Jarial², C L Sharma¹ and Dharmesh Gupta³**

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Abstract

The suitability of locally available 12 plant materials was evaluated as substrates along with wheat straw as the standard check for production of four species of oyster mushroom viz. *Pleurotus sajor-caju*, *P. ostreatus*, *P. florida* and *P. eryngii* under cold desert conditions of Spiti Valley of Himachal Pradesh. The time taken for spawn run and first flush was delayed in all the treatments including standard check and it ranged between 22-31 and 27-40 d, respectively. Among the four *Pleurotus* spp., *P. sajor-caju* performed the best exhibiting maximum average number of fruit bodies (53.84) and yield (0.726 kg/5kg substrate) irrespective of substrate used. It was followed by *P. florida* (44.61 and 0.634 kg/5kg substrate), *P. ostreatus* (41.41 and 0.583 kg/5kg substrate), and *P. eryngii* (2.33 and 0.066 kg/5kg substrate). Of all the 13 substrates used *Hordeum* sp. supported significantly maximum average number of sporocarps (69.92) and average yield (0.910 kg/5kg substrate) of all the *Pleurotus* species, followed by *S. fragilis* and *P. ciliata*, while pea, brinjal and cauliflower leaves were the least supportive. The biological efficiency of different *Pleurotus* species was recorded to be maximum in case of wheat straw in all the tested species followed by gandhum, changma and poplar. Due to highly variable climatic conditions in the Spiti Valley during the growing season, a large variation in the performance of wheat straw as standard substrate was recorded in comparison to its performance under normal controlled conditions.

Key words: cultivation technology, cold deserts, oyster mushroom, *Pleurotus sajor-caju*, *P. florida*, *P. ostreatus*, *P. eryngii*

Citation: Jarial RS, Jarial K, Sharma CL and Gupta D. 2013. Evaluation of locally available plant materials as substrates for growth and yield of different species of oyster mushroom under cold desert conditions of Himachal Pradesh. *J Mycol Plant Pathol* 43(2): 182-186.

Research Article

Management of Stem Rot (*Rhizoctonia solani*) of Carnation by Fungicides

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Abstract

For the management of stem rot of carnation (*Dianthus caryophyllus*) caused by *Rhizoctonia solani*, 10 fungicides viz., Antracol (propineb 75 WP, 0.2%), Bavistin (carbendazim 50 WP, 0.2%), Contaf (hexaconazole 5 EC, 0.1%), Kavach (chlorothalonil 75 WP, 0.2 %), SAAF (65 WP, 0.2% - mancozeb 63% + carbendazim 12%), Roko (thiophanate methyl 70 WP, 0.2%), Dithane M-45 (mancozeb75 WP, 0.2%), Thiram (thiram 75 DS, 0.2%), Avtar (75 WP, 0.2%- zineb 68% + hexaconazole 4%) and Captan (captan 50 WP, 0.1%) were evaluated *in vitro* and then in field condition on a susceptible cultivar Rubesco during 2009 and 2010. In field the fungicides were sprayed at 15d-intervals after planting of rooted cuttings of carnation. Among the fungicides tested under field conditions, thiram and Avtar were found most effective (<10% disease incidence compared to 40% in control).

Key words: carnation, fungicides, *Rhizoctonia solani*, stem rot

Citation: Sharma S and Chandel S. 2013. Management of stem rot (*Rhizoctonia solani*) of carnation by fungicides. *J Mycol and Pl Pathol* 43(2):187-189.

Research Article**Estimation of Yield Loss due to Powdery Mildew in Okra****Siddappa Bachihal, YS Amaresh, MK Naik, Gururaj Sunkad and AG Srinivas***Department of Plant Pathology, University of Agricultural Sciences, Raichur-584 102, Karnataka, India.**Email: ysama2008@rediffmail.com***Abstract**

Powdery mildew caused by *Erysiphe cichoracearum* is an economically important disease of okra or bhendi (*Abelmoschus esculentus*). A field experiment was conducted to estimate the yield losses due powdery mildew by creating different disease gradients in an okra crop. A susceptible variety Arka Anamika was grown in the field and the crop was sprayed with a fungicide Penconazole (1%) at different growth stages after the natural appearance of powdery mildew symptoms to create varying disease severity levels. A total of seven treatments (6 sprays and a control) were planned in a RBD in four replications. The results revealed comparatively lower disease index (5.89% - 7.98%) and increased yield (64.59 to 78.30 q ha⁻¹) in plots receiving three to six sprays of penconazole. Disease was reduced to an extent of 81.48, 84.15, 84.85 and 86.34 % when sprayed three, four, five and six times, respectively. Maximum yields were obtained from the plots receiving three sprays of penconazole compared to other treatments and untreated control (43.09 q ha⁻¹). A crop yield loss model was developed as $Y = 74.26 - 0.79 \text{ PDI}$ with $R^2 = 0.761$.

Key words: *Erysiphe cichoracearum*, okra, powdery mildew, yield loss

Citation: Bachihal S, Amaresh YS, Naik MK, Sunkad G and Srinivas AG. 2013. Estimation of yield loss due to powdery mildew in okra. *J Mycol Pl Pathol* 43 (2): 190-192.

Research Article

Evaluation of Fungicides and Plant extracts against *Ceratocystis fimbriata* causing Wilt of Pomegranate

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Abstract

Wilt disease caused by *Ceratocystis fimbriata* is a major challenge to pomegranate (*Punica granatum* cultivation in Kullu valley of Himachal Pradesh. Since growers heavily depend on the fungicides for its control, different fungicides and extracts of locally available plants known for their antimicrobial activities were tested *in vitro* and *in vivo* to control the disease. Amongst the fungicides tested, three drenchings of propiconazole at 15d intervals after the removal of affected stem were highly effective. The aqueous extracts of basooti (*Adhotoda vasica*) and/or drake (*Melia azedarach*) @ 15 % were also found effective and can be integrated with the fungicide application schedule for effective management of wilt disease of pomegranate.

Key words: *Ceratocystis fimbriata*, fungicides, drenching, plant extracts, wilt

Citation: Khosla K. 2013. Evaluation of fungicides and plant extracts against *Ceratocystis fimbriata* causing wilt of pomegranate. *J Mycol Pl Pathol* 43(2): 193-197.

Research Article**Efficacy of Fungicides and Botanicals for Suppression of Anthracnose of Chilli caused by *Colletotrichum capsici*****NS Tanwar and RN Bunker**

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Abstract

To manage chilli anthracnose/fruit rot caused by *Colletotrichum capsici*, five fungicides: propiconazole, bavistin, tebuconazole, mancozeb, copper oxychloride and five botanicals- neem-based formulations and karanj oil were evaluated *in vitro* and in various combinations in pots and in field in 2011. Tebuconazole (0.1%) and propiconazole (0.1%) were found effective in completely inhibiting the mycelial growth of *C. capsici* at 500 ppm and 1000 ppm while neem seed extract (0.2%) caused 55.4% inhibition. In pot and field experiments, two sprays of tebuconazole (0.1%), propiconazole (0.1%) and neem seed extract (0.2%) significantly reduced the disease, 14.4% in pots with 84.5% reduction in disease, and 12% in field with 86.9% reduction in disease and 59.4% increase the chilli fruit yield in field. Use of neem seed extract as spray along with fungicides would be an ecofriendly strategy in managing anthracnose/fruit rot of chilli.

Key words: anthracnose, fruit rot, botanicals, chilli, *Colletotrichum capsici*, disease management, fungicides

Citation: Tanwar NS and Bunker RN. 2013. Efficacy of fungicides and botanicals for suppression of anthracnose of chilli caused by *Colletotrichum capsici*. *J Mycol Pl Pathol* 43(2): 198-200.

Research Article

Effect of Gamma Irradiation and Storage Temperature on Post Harvest Rotting of Kesar Mango

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Abstract

The Kesar variety of Indian mango has great demand in global market, and for international trade, mango like any other commodities, is subjected to quarantine regulations in most of the importing countries. The current quarantine procedures used for export of fruit and plant materials involve vapour heat treatment, chemical fumigation with ethylene dibromide or methyl bromide or combinations of fumigation and cold treatment. To avoid the possible carcinogenic and mutagenic effects of chemical fumigants, four gamma irradiation doses (0.00, 0.20, 0.40 and 0.60kGy) and four storage temperatures (ambient, 9 C, 12 C and CA storage at 12 C) were evaluated to find their effect on fruit rots in “Kesar” mango. The fruits were exposed to gamma irradiation for different doses from the source of ⁶⁰Co. The studies revealed minimum rotting under 0.40 kGy irradiation and at 12 C storage temperature individually as well as in combination

Key words: gamma irradiation, fruit rot, Kesar mango, rotting, storage temperature

Citation: Yadav MK and Patel NL. 2013. Effect of gamma irradiation and storage temperature on post harvest rotting of Kesar mango. *J Mycol Pl Pathol* 43(2): 201-204.

Research Article

Characterization of Cereal Seed/Grain Associated *Fusarium* sp. through RAPD

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Abstract

Twenty-four isolates of *Fusarium* sp. obtained from seed/grain samples of wheat, maize and sorghum from different locations in Tamil Nadu were characterized for their genetic diversity using RAPD technique. RAPD analysis of seed-borne *Fusarium* sp. *F. graminearum* (Fg) and *F. moniliforme* (Fm) using random primers amplified DNA fragments having different molecular weight, which ranged in size from 100 to 2000 bp. Molecular analysis of seed-borne *Fusarium* sp. was studied by RAPD-PCR banding patterns, all the isolates from major cereals were grouped into two major clusters A and B. The cluster A consisted of nine isolates Fg1-8 and Fm14, and these isolates were highly variable. Cluster B was further divided into two subclusters B1 and B2. B1 consisted of 12 isolates and B2 one isolate. Genetic similarity between isolates indicated limited genetic variability among the isolates collected from the different locations. RAPD-PCR analysis showed similarities in the range of 49 to 91%. The study revealed the genetic diversity of *Fusarium* spp. and need for identification of virulent isolates among the major cereals seed-borne pathogens.

Key word: *Fusarium graminearum*, *F. moniliforme*, RAPD-PCR, seed-borne

Citation: Rajesh M, Senthil R, Prabakar K and Valluvaparidasan V. 2013. Characterization of cereal seed/grain associated *Fusarium* sp. through RAPD. *J Mycol Pl Pathol* 43(2):205-209.

Research Article**Morpho-cultural and Pathogenic Variability among Isolates of *Rhizoctonia solani* causing Sheath Blight of Rice in Jammu****Upma Dutta, Sachin Gupta, CS Kalha and VK Razdan**

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Abstract

Morpho-cultural and pathogenic variations among 15 isolates of *Rhizoctonia solani* obtained from sheath blight infected rice plants, 5 each from Jammu, Kathua and Udhampur areas of Jammu division, were studied during 2006-07. The isolates differed in respect of mycelial colour, hyphal width, radial growth and in size and shape, and colour of sclerotia. Despite morphological variations, the isolates showed positive hyphal fusion, and thus suggested the presence of a single anastomosis group. Subsequent reactions on maize, rice and wheat to the representative *R. solani* isolates led to infer that all the isolates belonged to the anastomosis group AG-1, sub-group 1A i.e. AG-1-1A. Seven variants/pathotypes were identified from different rice growing areas of Jammu on the basis of reaction types on 50 diverse rice varieties and were designated as JRS-1, JRS-2, JRS-3, JRS-4, JRS-5, JRS-6 and JRS-7. Among these the frequency of JRS-3 comprising of 4 isolates (2 from Jammu and 1 each from Kathua and Udhampur) was more than others in all three areas.

Key words: anastomosis, rice, *Rhizoctonia solani*, sheath blight

Citation: Dutta U, Gupta S, Kalha CS and Razdan VK. 2013. Morpho-cultural and pathogenic variability among isolates of *Rhizoctonia solani* causing sheath blight of rice in Jammu. *J Mycol Pl Pathol* 43 (2): 210-215.

Research Article**Macrofungal Diversity in Khirsu Forest of Garhwal Himalaya, Uttarakhand, India****MP Vishwakarma and RP Bhatt**

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Abstract

The Khirsu forest situated 19 km away from the Pauri town of Garhwal Himalaya, Uttarakhand, at an altitude of 1800 to 2200 m is a diverse angiospermic forest, dominated by broad-leaved tree species viz., *Quercus leucotrichophora*, *Rhododendron arboreum*, *Myrica esculenta*, *Lyonia ovalifolia* and *Quercus dilatata*. Macrofungi are frequent and abundant in this forest and are distributed in relation to these tree species. The forest receives ample amount of precipitation during monsoon (July-August) and has temperate climate, which makes its environment conducive for the growth of colourful mushrooms. The specimens of macrofungi were collected from Khirsu forest between July 2009 and September 2010. In this study 15 species of the mushrooms belonging to 10 families were identified. Of these, nine (*Agaricus silvicola*, *Amanita hemibapha*, *Cantharellus cibarius*, *Coprinus comatus*, *Lactarius corrugis*, *L. subindigo*, *Morchella esculenta*, *Phylloporus rhodoxanthus* and *Strobilomyces floccopus*) were edible species, two (*Agaricus placomyces* and *Lactarius yazoensis*) non-edible and poisonous forms, while four (*Cantharellus cibarius*, *C. comatus*, *G. lucidum* and *M. esculenta*) had medicinal value.

Key words: Garhwal Himalaya, diversity, Khirsu forest, macrofungi, medicinal mushrooms

Citation: Vishwakarma MP and Bhatt RP. 2013. Macrofungal diversity in Khirsu forest of Garhwal Himalaya, Uttarakhand, India. *J Mycol Pl Pathol* 43(2): 216-228.

Research Article

Transmission, Detection and Management of Yellow Mosaic Virus in Polebean (*Phaseolus vulgaris* L.)

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Abstract

Yellow mosaic of polebean (*Phaseolus vulgaris*) is widely prevalent in all the seasons in and around Bengaluru. The infected plants develop partial or complete brilliant golden yellow mosaic on leaves, stunted growth, less number of pods with reduced pod size. The rate of transmission of virus with 10 viruliferous whiteflies (*Bemisia tabaci*) was 100% at 24h acquisition and inoculation access, and latent period for symptom expression was between 7 to 15 d after inoculation. Single whitefly per plant could transmit the disease up to 40%. The virus could be transmitted to Frenchbean, limabean, ringbean, horsegram and soybean through *B. tabaci* under laboratory condition. The PCR amplified product of yellow mosaic virus coat protein was approximately 500bp, confirming it to belong to Begomovirus group. The disease could be effectively managed by integrated module viz., border crop with African tall maize, seed treatment with of imidacloprid 70% WS@ 5.0g kg⁻¹, use of reflective mulch, spraying of triazophos 40 EC @ 0.175% at 30 d after sowing (DAS) and with thiomethoxam 25WDG @ 0.05% at 45 DAS. The integrated module resulted in reduced disease incidence (7.4%) and whitefly count (1.0), highest yield of 32.2t ha⁻¹ with cost: benefit ratio of 1:3.17 compared to untreated control recording mean incidence of 33.0%, white fly count 4.73 and 9.70 t ha⁻¹ yield.

Key words: *Bemisia tabaci*, polebean, integrated module, yellow mosaic virus

Citation: Jyothi V, Nagaraju N, Padmaja AS and Rangaswamy KT. 2013. Transmission, detection and management of yellow mosaic virus in polebean (*Phaseolus vulgaris* L.). *J Mycol PI Pathol* 43(2): 229-236.

Short Communication

Mycoflora Spectrum of Market Samples of Dried Seeds of Wild Pomegranate (*Punica granatum*) from Jammu and Kashmir

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Key words: Mycoflora, pomegranate seed, *Punica granatum*

Citation. Zakir Seema and Sharma YP. 2013. Mycoflora spectrum of market samples of dried seeds of wild pomegranate (*Punica granatum*) from Jammu and Kashmir, India. *J Mycol Pl Pathol* 43(2): 237-239.

Short Communication**Modified Strullu and Romand (MSR) Medium Devoid of Sucrose Promotes Higher *in vitro* Germination in *Rhizophagus irregularis*****James D'Souza, KM Rodrigues and BF Rodrigues***Department of Botany, Goa University, Goa-403 206 India. Email: felinov@gmail.com*

Key words: Arbuscular mycorrhizal fungi, MSR medium, *Rhizophagus irregularis***Citation:** D'Souza J, Rodrigues KM and Rodrigues BF. 2013. Modified Strullu and Romand (MSR) medium devoid of sucrose promotes higher *in vitro* germination in *Rhizophagus irregularis*. *J Mycol Pl Pathol* 43(2): 240-242.

Short Communication

Natural Incidence of Entomopathogenic Fungi in North East India

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Key words: entomopathogenic fungi, insect pests

Citation: Pegu JR, Dutta P, Puzari KC and Nath PD. 2013. Natural incidence of entomopathogenic fungi in North East India. *J Mycol Pl Pathol* 43(2): 243-245.

Short Communication**Use of Aqueous and Cow Urine based Plant Extracts against Post-harvest Diseases of Apple****Harender Raj and Manica Tomar**

Department of Mycology and Plant Pathology, Dr. Y.S. Parmar University of Horticulture and Forestry, Nauni-173230, Solan, Himachal Pradesh, India. Email: hrg_mpp@yahoo.com

Key words: apple, bio formulation, plant extracts, post-harvest pathogens, storage rot

Citation: Raj H and Tomar M. 2013. Use of aqueous and cow urine based plant extracts against post-harvest diseases of apple. *J Mycol Pl Pathol* 43(2): 246-249.

Short Communication**Influence of Temperature and Moisture on Viability of Sclerotia of *Sclerotium rolfsii* in Soil****Saraswathi Maddu and Jaya Madhuri Ravuri***Department of Applied Microbiology, Sri Padmavati Mahila Visvavidyalayam, Tirupati-517 502 Andhra Pradesh, India.**Email: saraswathiphd@gmail.com*

Key words: environmental factors, *Sclerotium rolfsii*, sclerotia, storage period, viability**Citation:** Maddu S and Ravuri JM. 2013. Influence of temperature and moisture on viability of sclerotia of *Sclerotium rolfsii* in soil. *J Mycol Pl Pathol* 43(2): 250-251.

Short Communication**Phenotyping of Indian and Exotic Wheat Germplasm against Spot Blotch (*Bipolaris sorokiniana*)****RD Meena¹, Rashmi Aggarwal², MS Gurjar³, Sangeeta Gupta², P Srinivas⁴ and NL Meena⁵**

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Key words: *Bipolaris sorokiniana*, germplasm, resistance, spot blotch, wheat

Citation: Meena RD, Aggarwal Rashmi, Gurjar MS, Tomar SMS, Gupta S, Srinivas P and Meena NL. 2013. Phenotyping of Indian and exotic wheat germplasm against spot blotch (*Bipolaris sorokiniana*). *J Mycol Pl Pathol* 43(2): 252-254.

New Report

A New Host Record of *Nigrospora sphaerica* on *Mangifera indica* from Jabalpur, India

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New Report

***Hypocrea koningii* – Teleomorph of *Trichoderma koningii*, First Report from India**

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Key words: *Hypocrea koningii*, teleomorph, *Trichoderma koningii*

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