2002 to 2006

department of mycology & plant pathology

performance report

Dr. Rukhsana Bajwa

University of the Punjab

Message from the Chairperson

It is a matter of immense pleasure and great honour that MPPL has entered into a new era. This enviable position is certainly an outcome of the incessant struggle of the department faculty with their commitment to the cause.

We at the University believe that it is our responsibility to equip properly for a life, which is rewarding in every sense, those who have chosen the University of the Punjab for their higher education. The world of work is more competitive than ever and will continue to be one of rapid change. Hence, our aim is to produce technically sound, self confident, flexible and internationally recognized quality scholars who are able to realise their true potential through studying together and thereafter working together as professionals. Therefore our approach to education is based on constant innovation, development of practical knowledge and a firm commitment to traditional academic qualities.

Dr. Rukhsana Bajwa

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about the department

history

The science of Mycology and Plant Pathology is influenced profoundly by social, environmental and technological changes. In this age of specialization it is imperative that one equips himself with the kind of education that would be valuable today as well as in the foreseeable future. Keeping this in view, Department of Mycology & Plant Pathology (MPPL) was established in 2002 to provide best learning opportunities to the prospective Mycologists and Plant Pathologists to ensure crop protection, improved plant health and to develop agricultural and industrial economy.

Our curricula and syllabi incorporate the updated concepts and modern approach to the subjects of Mycology and Plant Pathology. The department always confers greater emphasis on the field application so that the students have adequate practical experience along with appropriate theoretical knowledge.

Our Goal

To provide best learning opportunities to the prospective Mycologists and Plant Pathologists to ensure crop protection, improved plant health to develop agricultural and industrial economy.

Objectives

- To be a leading institution in teaching, research and extension involving plant health, while serving the changing needs of society, environment and the university.
- To enhance effectiveness as a department by creating and maintaining proximity and complementariness of basic sciences and the applied agricultural sciences.
- To develop into a global and integrated discipline that will apply the fundamentals of plant – microbe interactions to advance plant health and productivity.

departmental building

The department took its start in a small space provided by Department of Botany University of the Punjab. Keeping in view future expansions we started preparations and struggle for its own independent edifice in its very early stage. MPPL entered into a new era of its development when University of the Punjab approved loan of 20M against our 1st PC-1 submitted to HEC for the new building and the groundbreaking ceremony was held on 8th Dec 2004. First phase of the department completed in very first year of its ceremony and we shifted to this building on 21st Dec 2005. It then took almost half a year to furnish the building sufficient for most pressing needs, and department was officially inaugurated.

The new building covers an area of 40,000 sq. ft.; second phase is now under construction.

Major areas of future endeavors are to:

1. Educate and develop corps of skilled manpower in the fields of Mycology & Plant Pathology.
2. Augment research based studies to build better understanding and insight of plant-microbe interactions.
3. Enhance research activities to develop knowledge base disease management strategies.
4. Develop the science of Plant Pathology as an applied discipline.

Inauguration of the new building

The inauguration ceremony of the new building of the Department of Mycology and Plant Pathology captured the essence of a beautiful evening on 19th June 2006. It was the dream that eventually was realized. Governor Punjab, Lt. Gen. (Rt.) Khalid Maqbool and Vice chancellor Punjab University, Lt. Gen. (Rt.) Arshad Mahmood graced the occasion.

The Governer and Vice Chancellor, along with other invitees, visited the labs and other facilities, and conversed with the students. He congratulated the staff and faculty on their achievement, and appreciated the pace of development of the department in teaching and research.

faculty

faculty profile

1. **Dr. Rukhsana Bajwa** (Ph.D. UK)
Professor & Chairperson
Fied of specialization: Mycorrhiza/ Plant Pathology/ Biocontrol
Experience: 30 years postgraduate teaching and research/administration
Publications: 112

2. Dr. J.H. Mirza (Ph.D. Canada)
National Professor
Field of specialization: Plant Pathology/ Mycology
Experience: 40 years teaching and research experience
Publications: 75

3. **Dr. Ghazala Nasim** (Ph.D. PU, PGD in En. Law)
Assistant Professor
Field of specialization: Mycorrhiza, Molecular Plant Path.
Experience: 18 years postgraduate teaching and research experience.
Publications: 92

4. **Dr. S.N. Khan** (Ph.D. QAU)
Assistant Professor
Field of specialization: Plant Pathology, Soil Microbiology
Experience: 18 years of field (agriculture) and 2 years teaching experience.
Publications: 10

5. **Dr. Zakia Latif** (Ph.D. PU)
Lecturer
Field of specialization: Molecular Biology/
Plant Pathology
Experience: 5 years post graduate research and teaching experience
Publications: 19

6. **Mr. Asad Shabbir:** (M. Phil PU)
Lecturer
Field of specialization: Weed Ecology & Pathology/Mycology
Experience: 5 years Teaching & Research experience:
Publications: 12

7. **Ms. Tehmina Anjum** (M.Sc. LCW),
Lecturer
Field of specialization: Allelopathy/ Mycology
Experience: 5 year Teaching & Research experience
Publications: 11

8. **Dr. Shakil Ahmed** (Ph.D. GCU)
Lecturer
Field of Study: Environmental Pollution, Environmental Mycology.
Experience: 11 Teaching & Research experience
Publications: 15

9. **Dr. Arshad Javaid.** (Ph.D. PU)
Lecturer
Field of Study: Mycology & Plant Pathology Soil Microbiology
Experience: 14 Teaching & Research experience
Publications: 99

10. **Ms. Zill-e-Huma** (MPhil GCU)
Lecturer
Field of Study: Tissue culture
Experience: 1 year teaching and research
Publications: 3

11. **Mr. Nadeem Shad** (M.Sc. (Hons.) UAF)
Lecturer
Field of Study: Plant Virology
Experience: 1 year teaching and research
Publications: 2

12. **Mrs. Farrukh Hassan** (M.Phil QAU)
Lecturer
Field of Study: Biotechnology
Experience: 4 year
Publications: 4

13. **Miss. Samina Mehnaz** (Ph.D. QAU, Post Doc. (Canada))
Lecturer
Field of Study: Microbial Ecology, Molecular Plant Microbe Interaction
Experience: 3 year
Publications: 7

14. **Miss Shazia Shafique** (M.Sc.)
Teaching Assistant
Field of Study: Fungal Biotechnology
Experience: 3 year
Publications: 12

15. **Miss Sobia Shafique**
Teaching Assistant
Field of Study: Fungal Biotechnology
Experience: 3 year
Publications: 12

faculty development programs

Foreign Trainings

Department encourages faculty to participate in international training programs. In last three years members have participated in various training workshops in UK, Turkey, America etc.

1. Training course on “Biological Fertilizer Technology” at Hebei Research Institute, Boading, Hebei on 26th Aug – 20th Oct, 2004, Dr. Shazia Irum, (Assistant Prof.)
2. Training on chromatography and spectroscopy to identify novel plant compounds at Jodrel Labs, Kew Gardens, UK. Nov 2003 – Feb 2004, Miss Tehmina Anjum, (Lecturer)
3. International Advanced Course on Renewable Energies in Istanbul, Turkey, 5 – 14 June, 2006, Dr. Ghazala Nasim, (Assistant Professor)

Seminars/Workshops/Conferences Organized by MPPL

Department itself regularly plans to provide forum on hot national issues to related community in the field. So far we have arranged two symposia and one workshop in collaboration with Higher Education commission of Pakistan.

1. Symposium on "Awareness of Parthenium weed", 6-7 August, 2004. HEC
2. Workshop on Identification & Conservation of Micromycetes, 23 – 28, August, 2004. HEC
3. International Symposium on Biofertilizer and Biocontrol Technology at MPPL, 25th – 27th July 2005. HEC, APO, NPO

Seminars/Workshops/Conferences, Attended/ Participated by MPPL Faculty

Excellence in teaching and research is internationally recognized and rewarded. Faculty members are regularly participating in national and international conferences and seminars to present their work on different forums

International events

1. GWSP open science conference in Portsmouth, 7 – 9 Oct 2003. New Hampshire, USA, Dr. Ghazala Nasim, (Assistant Prof.).
2. Second Asian conference on plant pathology 25th – 28th June 2005. at National University of Singapore, Miss Tehmina Anjum, (Lecturer)
3. 4th World congress on Allelopathy, 21 - 26 August, 2005. Charles Wallace University, Wagga Wagga, Australia, Miss Tehmina Anjum, (Lecturer).

4. 7th World conference on "Ecological Restoration: A Global Challenge" 12 – 18 September 2005. at Zaragosa, Spain. Mr. Asad Shabbir, (Lecturer).

5. Open science conference on "Global Change in Mountain Regions", 2 – 6 October 2005. Perth, Scotland UK, Dr. Ghazala Nasim, (Assistant Prof.).
6. 2nd International Conference on Higher Productivity in Food & Agriculture, 3 – 4 May 2005. Lahore, Dr. Ghazala Nasim, (Assistant Prof.).
7. First Kashmir International Science Conference. 20 – 21 September 2005. University of Azad Jammu and Kashmir, Dr. Salik Nawaz Khan (Assistant Prof.), Dr. Arshad Javaid (Lecturer).
8. International symposium on rice crop, 2 – 3 October 2005. Kala Shah Kaku, Dr. Arshad Javaid (Lecturer).
9. Internat6ional Symposium on Recent Trends in Plant Disease Management, 20 – 22 December 2005. University of Karachi, Pakistan, Dr. Salik Nawaz Khan (Assistant Prof.), Dr. Arshad Javaid (Lecturer).
10. 15th Australian weed conference, 24 - 28 September 2006. Adelaide, Australia. Mr. Asad Shabbir, (Lecturer).
11. International SAARC countries conference, 20th – 22nd February, 2006. Organized by the University of the Veterinary Sciences, Lahore, Prof. Dr Rukhsana Bajwa, (Chairperson MPPL), Dr. Ghazala Nasim, (Assistant Prof.), Dr. Arshad Javaid, (Lecturer).
12. Second International Weed science Conference, 20th-22nd March, 2006. Organized by Weed Science Society of Pakistan at University of Arid Agriculture, Rawalpindi, Prof. Dr. Rukhsana Bajwa (Chairperson MPPL), Dr. Arshad Javaid (Lecturer), Mr. Asad Shabbir, (Lecturer).

13. First International Conference on Biotechnology and Bioinformatics, 10-12, April 2006. Department of Environmental Sciences, University of Balochistan, Dr. Salik Nawaz Khan (Assistant Prof.), Dr. Arshad Javaid (Lecturer) and Mr. Asad Shabbir (Lecturer).
14. International Symposium on nano chemistry, chemistry, biochemistry, molecular biology and bioinformatics of enzymes. 20 21 Sept. 2006. School of biological sciences PU, Dr. Ghazala Nasim, (Assistant Professor).
15. International Conference on Biotechnology: Shaping Future Agriculture. June 20-21, 206. University of Arid Agriculture, Rawalpindi.
16. International Symposium on Strategies for Crop Improvement Against Abiotic Stresses. 18-20 September, 2006. University of Agriculture, Faisalabad,Pakistan. Dr. Arshad Javaid (Lecturer).

National events

17. National training course on Modern techniques in Biotechnology, 4 – 9 April, 2004. at NIBGE, Faisalabad, Mr. Asad Shabbir (Lecturer).
18. Workshop on Identification, Maintenance and Preservation of Microorganisms, 10– 13 May 2004, Quaid-e-Azam University Islamabad, Mr. Asad Shabbir (Lecturer), Miss Tehmina Anjum, (Lecturer), Mrs. Naureen Akhtar (Research Associate).
19. National seminar on Shisham decline, 29th June 2004. Organized by Forest Research Institute, Gatwala Faisalabad, Prof. Dr Rukhsana Bajwa, (Chairperson MPPL), Dr. Salik Nawaz Khan (Assistant Prof.), Dr. Arshad Javaid, (Lecturer), Mr. Asad Shabbir (Lecturer).
20. National Capacity Workshop on Global Change Research, 8-10 June 2004. Islamabad, Dr. Ghazala Nasim, (Assistant Prof.).
21. Lecture on “Origin & Evolution of Life on Earth” on a 6-day HEC training course on Geography, 20-25th September 2004. Miss Tehmina Anjum, (Lecturer)
22. Six-day workshop on “Plant Disease Diagnosis: Conventional and Molecular Approaches”, 16-21, December, 2004. Organized by M.A.H. Qadri Biological Research Center, University of Karachi, Dr. Shakil Ahmad, (Lecturer).
23. “Spaying Molecules”, 28th Feb. 2005. Invited lecture by Khwarzimic Science Society Pakistan, Miss Tehmina Anjum, (Lecturer).
24. International Karakorum conference, 25 – 27 April 2005. Islamabad, Dr. Ghazala Nasim, (Assistant Prof.).
25. National workshop on Global Change: Challenges, Impacts, Opportunities and Prospects, 28 30 April 2005. Islamabad, Dr. Ghazala Nasim, (Assistant Prof.).
26. 2nd Annual Seminar 0n “Towards Cleaner Air: The Role of Judiciary”, 21 May 2005, PELA Pakistan, Dr. Ghazala Nasim, (Assistant Prof.).
27. Conference on “Recent Vistas-Botanical Knowledge”. 5 – 7 December 2005. Government College University, Faisalabad, Dr. Ghazala Nasim, (Assistant Prof.), Miss Tehmina Anjum, (Lecturer).
28. 9th All Pakistan Conference of Plant Scientists, 13th – 15th February, 2006. Institute of Botany, University of Sindh Jamshoro, Dr. Salik Nawaz Khan (Assistant Prof.), Dr. Arshad Javaid (Lecturer), Mr. Asad Shabbir (Lecturer).
29. “On–Farm Bee keeping Training Workshop”, 20th – 24th February, 2006. Organized by Zoology Department, University of the Punjab, Lahore, Miss Shazia Shafique, Miss Sobiya Shafique (Ph.D. Scholar).
30. “A Practical Approach to Sustainability Reporting” –Workshop, 21st April 2006. Organized by ACCA at Pearl continental Lahore, Dr. Ghazala Nasim, (Assistant Prof.).

31. “Environmental problems and solution”, 10 – 11, May 2006. Workshops by Pakistan Academy for Rural Development, Peshawar, Dr. Shakil Ahmad, (Lecturer).
32. “Impact of media and IT on rural society” 10 – 11, May 2006. Workshops by Pakistan Academy for Rural Development, Peshawar, Mr. Nadeem Shad, (Lecturer).
33. Third National Seminar on Shisham Dieback 19th May 2006. Organized by Forest Research Institutes, Gatwala Faisalabad, Prof. Dr Rukhsana Bajwa, (Chairperson MPPL), Dr. Arshad Javaid, (Lecturer).
34. Course on Environmental Monitoring 29th May - 2nd June 2006. Jointly organized by SUPARCO (Space and Upper Atmosphere Research Commission, Pakistan) and Centre for Integrated Mountain Research, PU, Dr. Ghazala Nasim, (Assistant Professor).
35. World Environment Day, 5th June 2006. Organized by En. Protection department Punjab and Pakistan Engineering congress, Dr. Ghazala Nasim, (Assistant Professor).
36. One day seminar on Quality assurance in Higher Education 5 – 8 June, 2006. Hotel Sunfort Lahore, Organized by Pakistan Institute of Quality control, Dr. Ghazala Nasim, (Assistant Professor).
37. Sugarcane curricula development workshop for non-formal participatory training of trainers (TOT) and farmer field school (FFS) activities 17th Aug, 2006. Under WWF, Pakistan, Dr. Ghazala Nasim, (Assistant Professor).
38. Workshop on Biochemical Engineering and Fermenter Applications, 19th Aug, 2006. IBB, University of the Punjab, Dr. Ghazala Nasim, (Assistant Professor) and Dr Arshad Javaid (Lecturer).
39. Seminar on opportunities for Pakistan pharmaceutical sector under WTO regime, 20th Sept. 2006. Planning and development department, Govt. of Pakistan. Lahore, Dr. Ghazala Nasim, (Assistant Professor).

research publications

Faculty members are actively involved in various research projects, and have honour to publish their research work in various reputed international journals with high impact factor.

Publications of the Year 2002

1. Javaid A, Anjum T, Bajwa R (2002). EM and VAM Technology in Pakistan. XII: Growth, nodulation and VA Mycorrhizal response of *Phaseolus vulgaris* L to Long-Term EM Application. *Pakistan Journal of Phytopathology* 14(1): 57-61.
2. Bajwa R, Javaid A, Javaid A (2002). Effect of soil sterilization, organic Amendments and EM application on growth, yield and VA mycorrhizal colonization in maize. *Pakistan Journal of Phytopathology* 14(1): 62-67.
3. Javaid A, Bajwa R (2002). EM and VAM technology in Pakistan XIII: growth, nodulation and mycorrhizal Colonization in Pea (*Pisum sativum* L.) in Soils with different histories of EM application. *Pakistan Journal of Phytopathology* 14 (2):120-124.
4. Mahmood TZ, Shabbir A (2002) Allelopathic effects of *Cyperus rotundus* L. (purple nutsedge on initial growth of Sugarcane. *Indus Journal of Plant Sciences* 1(3): 263-265
5. Bajwa R, Aslam N, Javaid A (2002). Comparison of three green manures for growth and vesicular arbuscular mycorrhizal (VAM) colonization in maize (*Zea mays* L.). *Online Journal of Biological Sciences* 2(8): 512-517.

Publications of the Year 2003

6. Bajwa R, Javaid A, Shah MBM (2003). Extent of Shisham (*Dalbergia sissoo* Roxb.) Decline in Sialkot, Gujranwala, Lahore and Sargodha districts. *Mycopath* 1(1): 1-6.
7. Javaid A, Bajwa R, Shah MBM (2003). Dieback resistance potential in different varieties of *Dalbergia sissoo* Roxb. *Mycopath*, 1(2):105-110.
8. Bajwa R, Javaid A, Mirza JH, Akhtar N (2003). Chemical control of wilt in Shisham (*Dalbergia sissoo* Roxb.) *Mycopath* 1(2), 111-113.
9. Bajwa R, Akhtar N, Javaid A (2003). Role of VAM in Alleviating allelopathic stress of Parthenium hysterophorus on maize (*Zea mays* L.) Growth. *Mycopath*, 1(1): 15-30.
10. Nasim G, Bajwa R (2003). Endogonaceous spore flora of Pakistan. IX. Frequency of occurrence of VAM fungi in wheat fields around Punjab University Campus area. *Mycopath*, 1(1): 67-80.
11. Nasim G, M Din, S Ali, A Shabbir and MB Ilyas (2003). Effect of foliar application of *Ascochyta rabiei* on growth and vesicular arbuscular mycorrhizal status of eight chick pea varieties, *Mycopath* 1(1): 85-94.
12. Nasim G, N Ilyas and A Shabbir (2003). Effect of salts of copper on invitro growth of some soil fungi. Mycopath, 1(2): 155-158.
13. Nasim G, Din Mali S , Shabbir A, Ilyas MB (2003). Study of dynamics of Phylloplane fungi in relation to *Ascochyta* blight in chick pea, *Mycopath*, 1(2): 179-183.
14. Ahmed S (2003) Effects of NaCl salinity on germination and establishment of greengram seedlings. *Biologia*. 49 (1&2): 1-7.
15. Ahmed S (2003) Some Toxicity symptoms of sodium chloride in mungbean. *Biologia*, 49 (1&2): 29-36.

16. Wahid A, Ahmad S (2003). Environmental pollution and its effects on chilli (*Capsicum annuum* L.) grown in fields of Lahore. *Biologia* 49(1&2) : 117-123.

Publications of the Year 2004

17. Bajwa R, Shafique S , Shafique S, Javaid A (2004). Effect of foliar spray of aqueous extract of Parthenium hysterophorus on growth of sunflower. *International Journal of Agriculture & Biology* 6(3): 474-478.
18. Nasim G, Iqbal, SH, Mirza, JH, Riaz T, Butt S, Anjum, T and Shabbir, A., (2004). A brief note of Lichens from Swat, *Mycopath* 2(2), 79-82.
19. Nasim G, Rahman M, Shabbir A (2004). Effect of Indole acetic acid on in vitro growth and Biomass Production of some Soil Fungi. *Pakistan Journal of Biological Sciences* 7 (12): 2039-2044.
20. Nasim G, Rahman M , Shabbir A, Cheema,TS (2004). Effect of Gibberrellin on in vitro growth and Biomass Production of some Soil Fungi. *Mycopath,*2 (1): 15-19.
21. Nasim G, Abbas G, Shah BM (2004). Seasonal variation of AM fungal colonization in Sugarcane (*Saccharum officinarum* L.) plants suffering from ratta Roag (red rot) disease. *Mycopath* m2 (1): 37-42.
22. Bashir K, Husnain T, Fatima T, Latif Z , Mehdi SA, Riazuddin S (2004). Field evaluation and risk assessment of transgenic indica Basmati rice. *Molecular Breeding* 13: 301-312.
23. Bajwa R, Mukhtar I, Anjum T (2004). Invitro biological control of Fusarium solani – cause of wilt in Debergia sissoo Roxb. *Mycopath*. 2(1): 11-14.
24. Javaid A, Bajwa R, Anjum T (2004). Tree dieback in Punjab, Pakistan. *Mycopath* 2(1): 1-5.
25. Javaid A, Bajwa R Anjum T (2004). Identification of some more varieties of Shisham (Dalbergia sissoo Roxb.) and their response to dieback and wilt. *Mycopath*, 2(2):55-59.
26. Wahid, A. and Ahmad, S. (2004). Growth and biochemical status of wheat seedlings treated with industrial effluents. *Biologia* 50 (1) : 1-7.

Publications of the Year 2005

International Publications

27. Anjum T, Bajwa R (2005). A bioactive annuionone from sunflower leaves. Phytochemistry, 66: 1919-1921.
28. Hafeez FY, Naeem FI, Naeem R, Zaidi AH, Malik KA (2005). symbiotic effectiveness and bacteriocin production of *Rhizobium leguminosarum* biovar viciae isolated from agriculture soils in Faisalabad. *Environmental and Experimental Botany* 54, 142-147.
29. Hafeez, FY, Naeem FI, Shaheen N, Malik KA (2005). Nodulation of sesbania spp. By introduced rhizobia in competition with naturalized strains in different soil types. *Pakistan Journal of Botany* (Accepted)
30. Bajwa R, Naz I (2005). Allelopathic effects of Eucalyptus citriodora on growth, nodulation and AM colonization of *Vigna radiata* (L.) Wilczek. *Allelopathy Journal* 15(2): 237-246.
31. Bajwa R (2005). Interaction of AM fungi with allelochemicals. *Allelopathy Journal* 15(2):
32. Nasreen, Z., Kausar T., Nadeem M, Bajwa R.(2005). Study of different growth parameters in Ganoderma lucidum. Micologia *Aplicada International* 17(1): 5-8.
33. Bajwa R (2005). Effects of arbuscular mycorrhizae (AM) and effective microorganisms (EM) on various plants under allelopathic stress. *Allelopathy Journal* 16(2): 261-272.

National Publications

34. Ahmed S, Wahid A, Rasul E, Wahid A, (2005). Comparative morphological and physiological responses of greengram genotypes to salinity applied at various growth stages. Bot. Bull Acad. Sin., 46: 135-14215
35. Anjum T, Bajwa R, Javaid A, (2005). Biological Control of Parthenium I: Effect of Imperata cylindrica on distribution, germination and seedling growth of *Parthenium hysterophorus* L. *International Journal of Agriculture and Biology* 7(3): 448-450.
36. Anjum T, Javaid A, (2005). Major diseases of citrus in Pakistan – a review. International Journal of Biology and Biotechnology 2(4): 793-796.
37. Anjum T, Bajwa R (2005). Importance of Germination Indices in interpretation of allelochemical effect on seed germination. *International Journal of Agriculture & Biology* 7(3): 417-419.
38. Bajwa R, Iftikhar S (2005). Antifungal activity of allelopathic plant extracts. VI. In vitro control of fungal pathogens by aqueous leaf extracts of *Eucalyptus*. *Mycopath*, 3(1&2): 7-12.
39. Javaid A, Anjum T (2005). *Parthenium hysterophorus* L. – A noxious alien weed. *Pakistan Journal of Weed Science Research* 11(3-4): 171-177.
40. Javaid A, Anjum T (2005). Wheat and rice diseases in Pakistan and their management – a review. *International Journal of Biology and Biotechnology* 2(4): 785-791.
41. Javaid A, Bajwa R, Javaid A, Anjum T (2005). Fungi associated with seeds of pulses collected from Lahore and their effect on seed germination. *Mycopath* 3(1&2): 12-15.
42. Javaid A, Bajwa R, Anjum T (2005). Biological Control of *Parthenium* II: Allelopathic effect of *Desmostachya bipinnata* on distribution and early seedling growth of *Parthenium hysterophorus* L. *International Journal of Biology and Biotechnology* 2(2): 459-463.
43. Javaid A, Bajwa R, Javaid A (2005). Decline of Erythrina suberosa Roxb. in Punjab, Pakistan. *Pakistan Journal of Phytopathology* 17(2): 105-107.
44. Javaid A (2005). Mango (*Mangifera indica* L.) diseases in Pakistan and their management – a review. *Pakistan Journal of Phytopathology* 17(2): 108-112.
45. Nasim, G, (2005). Role of symbiotic soil fungi in controlling roadside erosion and in the establishment of plant communities. Caderno Pesquisa Serie Biologia, 17(1), 119-136
46. Nasim, G and Bajwa, R. (2005). Glomalean spores associated with major cereals I-Wheat Caderno Pesquisa Serie Biologia, 17(1), 137-154.
47. Nasim G, Ilyas N, Shabbir A (2005). Effect of some organic pesticides on in vitro growth of some soil fungi. Journal of Environment , *Mycopath*, 3 (1 &2).
48. Nadeem M, Rani Z, Aman S Kazmi AM, Shabbir A (2005). *Parthenium* weed: a growing concern in Pakistan. *Journal of Pakistan Association of Dermatologists* 15(1) pp 4-8.
49. Shabbir A, Bajwa R (2005). *Senna occidentalis*: a native plant to restore the natural vegetation of Islamabad World conference on ecological restoration – A Global Challenge held from 12-18 September Zaragoza, Spain Europe.
50. Shafique S, Shafique S, Javaid A (2005). Fungitoxicity of aqueous extracts of allelopathic plants on seed-borne mycoflora of maize. *Mycopath* 3(1&2): 22-25.
51. Shafique S, Javaid A, Bajwa R, Shafique S (2005). Biological Control of Parthenium IV: Suppressive ability of aqueous leaf extracts of some allelopathic trees against germination and early seedling growth of *Parthenium hysterophorus* L. *Pakistan Journal of Weed Science Research* 11(1-2): 75-79.
52. Shad N., Mughal S.M. and Bashir M. (2005). Transmission of Mungbean yellow mosaic begono virus (MYMV). Pak. Journal of Phytopathology 2(17): 141-143.

Publications of the Year 2006

International Publications

53. Anjum T, Javaid A, Shah MBM (2006). Correlation between plant growth and arbuscular mycorrhizal colonization in some rainy season grasses. *Pakistan Journal of Botany* 38 (3): 841-847.
54. Anjum T, Bajwa R (2006). Field appraisal of herbicide potential of sunflower leaf extract against Rumex dentatus. *Field crops research.* (in press)
55. Bajwa R, Anjum T, Shafique S. and Shafique, S., (2006). Evaluation of antifungal activity of Cicer arietinum L. *Pakistan Journal of Botany* 38(1): 175-184.
56. Bajwa R, Javaid A (2006). Integrated management to control shisham (D*albergia sissoo* Roxb.) decline in Pakistan. *Pakistan Journal of Botany***,** 38 (Special Issue): in press
57. Javaid A, Anjum T (2006). Control of *Parthenium hysterophors* uL. by aqueous extracts of allelopathic grasses. *Pakistan Journal of Botany* 38 (1): 139-145.
58. Javaid A, Bajwa R, Anjum T (2006). Response of black gram [Vigna mungo (L) Hepper] to bradyrhizobium japonicum inoculation under different soil amendment systems. *Pakistan Journal of Botany* 38 (3): 849-855
59. Javaid A, Shafique S, Bajwa R, Shafique S (2006). Effect of aqueous extracts of allelopathic crops on germination and growth of *Parthenium hysterophorus* L South African Journal of Botany 72(4): 608-611
60. Javaid A (2006). Foliar application of effective microorganisms on pea as an alternative fertilizer. *Agronomy for Sustainable Agriculture* 26(4): (in press)
61. Javaid A, Shafique S, Shafique S (2006). Causes of rapid spread of *Parthenium hysterophorus* L. in pakistan and possible control measures – a review. *Pakistan Journal of Botany***,** 38 (Special Issue) in press
62. Shad N., Mughal S.M., Farooq K., and Bashir M., (2006). Evaluation of Mungbeen germ plasm for resistance against Mungbean yellow MOSAIC Begomovirus. *Pakistan Journal of Botany* 38(2): 449-457.
63. Mehnaz S, Lazarovits G (2006). Inoculation effects of Pseudomonas putida. (*iluconacelobacter azotocaptans* and *Azospirillum lipoferum* on corn plant growth under green house conditions. *Microbial Ecology*, 51: 326-35.
64. Mehnaz S, Wesclowski B, Lazarovits G (2006). Isolation of Glucomacetobacter azotocaptans from corn rhizosphere. Systematic and Applied Microbiology (Inpress: Available online)
65. Mirza MS, Mehnaz S, Normand P, Prigent-Combaret C, Moenne-Loccoz Y, Bally R, Malik K.A (2006). Molecular characterization and PCR-detection of a nitrogen fixing Pseudomonas strain promoting rice growth. *Biology and Fertility of Soil* (in Press: available online)
66. Nasim G, (2006) Mountain mycorrhizal biodiversity in the northern Pakistan-yesterday, today and tomorrow.141-143 In: Global Change in the Mountain Rregions . Editor: Martin F. Price, Sapiens Publishing, Duncow, Kirkmahoe, Drumfrieshire, DG1, 1TK, UK.
67. Shabbir A, Bajwa R (2006). Distribution of *Parthenium* weed (*Parthenium hysterophorus*) I: an alien invasive weed species threatening the biodiversity of Islamabad. *Weed Biology and Management* (In Press).
68. Shafique S, Javaid A, Bajwa R, S Shafique (2006). Effect of aqueous leaf extracts of allelopathic trees on germination and seed-borne mycoflora of wheat *Pakistan Journal of Botany***,** 38 (Special Issue): in press
69. Shafique S, Bajwa R, Javaid A, Shafique S (2006). Biological control of *Achyranthes aspera* and *Xanthium strumarium* in Pakistan. *Pakistan Journal of Botany***,** 38 (Special Issue): in press

National Publications

70. Bajwa R, Shafique S, Shafique S (2006). Effect of leaf rust infection on mycorrhizal colonization of weeds. *Mycopath* 4(1): 1-4.
71. Javaid A, Anjum T, Bajwa R, (2006). Chemical control of noxious weed *Parthenium hysterophorus* L. *International Journal of Biology and Biotechnology* 3(2): 387-390.
72. Javaid A Shabir A, Nawaz S (2006). Preliminary report on tree dieback in Balochistan. *International Journal of Biology and Biotechnology* 3 (4): (in press)
73. Javaid A, Shafique S, Bajwa R, Shafique S (2006). Biological control of noxious alien weed *Parthenium hysterophorus* L. in Pakistan. *International Journal of Biology and Biotechnology* 3 (4): (in press)
74. Javaid A, Shafique S and Shafique S (2006). Fungi associated with stored seeds of *Parthenium hysterophorus* collected from Lahore. *International Journal of Biology and Biotechnology* 3(3):551-553.
75. Javaid A, Shafique S and Shafique S (2006). *Parthenium* weed – an emerging threat to plant biodiversity in Pakistan. *International Journal of Biology and Biotechnology* 3(3): 619-622.
76. Javaid A, Shabir A, Bajwa R (2006). First report of biological control of *Parthenium hysterophorus* by *Zygogramma bicolorata* in Pakistan. *Pakistan Journal of Phytopathology* 18(1): (in press)
77. Javaid A, Akhtar N (2006). *Acacia nilotica* (babul or kikar) dieback in Punjab, Pakistan. *Pakistan Journal of Phytopathology* 18(1): 1-4.
78. Javaid A, Bajwa R, Shafique S, Shafique S (2006). Tree dieback incidence in Nathiagali and surrounding hills. *International Journal of Biology and Biotechnology* 3 (1): 73-75.
79. Javaid A, Anjum T (2006). Fungi associated with seeds of economically important crops in Pakistan. *Pakistan Journal of Seed Technology* (in press)
80. Javaid A, Anjum T, Shah MBM (2006). Correlation of arbuscular mycorrhizal colonization with plant growth, nodulation, and shoot NPK in legumes *Pakistan Journal of Phytopathology* 18(1): (in press)
81. Mukhtar I, Bajwa R, Ashraf A, Javaid A, Shah MBM (2006). Complimentary effect of *Trichoderma harzianum* and some allelopathic plant extracts on *Fusarium solani*. *International Journal of Biology and Biotechnology* 3 (1): 77-80.
82. Nasim G 2006 Glomalean Spore Flora of Pakistan. III. Spores formed freely in soil aggregates. *International Journal of Agriculture and Biotechnology*. 3(3), 555-560.
83. Shafique S, Bajwa R, Javaid A, Shafique S (2006). Antifungal activity of aqueous extracts of weeds against pathogen of black pointed disease of wheat seeds. *Pakistan Journal of Phytopathology* 18(1): 5-8.
84. Shah MBM, Bajwa R and Javaid A (2006). Response of maize (*Zea mays* L.) genotypes to inoculation of two arbuscular mycorrhizal species. *Int. J. Biol. Biotechnol.*, 3(1): 191-196.
85. Sohail MI, Rao SA, Javaid A (2006). Evaluation of hybrid corn (*Zea mays* L.). *International Journal of Biology and Biotechnology* 3 (2): 391-397.

membership of committees/literary societies

- Member, Appellate Committee, Punjab University.
- Incharge, Publication of yearly departmental prospectus.
- Incharge, Tree Care on the Campus.
- Chief Editor, Mycopath (Department of MPPL)
- Member, Editorial Board, International Journal of Biology and Biotechnology
- Member, Editorial Board, Pakistan Journal of Phytopathology.
- Member, Editorial Board, Myconews.
- Member, Committee constituted by the Vice-Chancellor to review the existing Statutes and frame new Rules & Regulations for al the Constituent Colleges of the University.
- Member, Disciplinary Committee, University of the Punjab, Lahore since 2006.
- Editor, Mycopath, Department of Mycology & Plant Pathology
- Editor, Myconews, Department of Mycology & Plant Pathology
- Editor, Pakistan Journal of Phytopathology
- Editor, Pakistan Journal of Biological Sciences
- Editor, International Journal of Biology & Biotechnology
- Member, Mycological Society of America
- Member, International Association of Plant Taxonomy
- Member, Pakistan Association for the Advancement of Science
- Member, Society for the Advancement of Agricultural Sciences, Pakistan
- Member, Scientific Society of Pakistan
- Member, American Phytopathological Society
- Member, Pakistan Phytopathological Society
- Member, National Geographic Society of America
- Member, Pakistan Society of Mycology & Plant Pathology.
- Life-Member of Myco-Phytopathological Society of Pakistan (MYCOPS).
- Life Member of Weed Science society of Pakistan (WSSP).
- Pakistan Environmental Law Association (PELA).
- Pakistan Geological Society (PAGS)
- Pakistan Biological Society.
- Pakistan Botanical Society.
- Science Task Force.
- Mycological Society of America, (MSA).
- The Zoological Society of Pakistan.
- Pakistan Herbal Society
- Member, Editorial Board of “Estudios de Biologia” (Biology Studies)a quarterly published research Journal of Brazil.
- Society for Ecological Restoration International (SER).

students

academic programs

Academic programs are being run under semester system. Department is presently catering following:

B.Sc (Hons) 4-Years

When the Department of MPPL came into existence, we wanted to have a 4-years B.Sc. Hons. Degree program like the B.Sc. Hons. Degrees in Pakistan Agriculture Universities and other Universities the world over. But since the Hons. Degree at the University of the Punjab was of 3 years duration at that time; we had to go with the other departments the faculty and the University. We enrolled two batches in this program but the University of the Punjab then decided in principle to have a 4 year B.Sc. Hons. degree, we redesigned our curricula accordingly. For this purpose the scheme of studies and the curricula were revised and new courses were designed. Now department has enrolled three batches in four year B.Sc (Hons.) program. The programs are running under semester system with one semester internship period.

The four years B.Sc. (Hons.) Degree programme have been divided into eight semesters. Each semester is of 20 weeks, with 18 weeks for teaching, one week for the conduct of examinations and one week for the preparation of results. First two semesters include auxiliary and supporting courses. Whereas from semester three and onward students are taught compulsory courses emphasizing on fields of Mycology, Agriculture and Plant Pathology.

Eligibility criteria:

1. The applicant with F.Sc. (Pre-Medical) or equivalent recognized qualification with Biology and Chemistry will be eligible for admission to B.Sc. (Hons.) degree programme in MPPL.
2. Total number of seats, their allocation and procedure for admission is decided by the admission committee of undergraduate program each year.
3. The applicants have to qualify general NTS test. The test will comprise 20% each for Physics, Chemistry, English, General knowledge and Biology.
4. Maximum age limit is 24 years.

M.Sc (Hons) 2-Years

Graduate programs provide a spectrum of educational experiences to train the increasingly diverse group of future mycologists and plant pathologists. These programs provide abundant learning opportunities that develop excellent problem solving skills and a deep conceptual understanding of this science. Three batches are enrolled in two years M.Sc (Hons.) program.

The program is so far engaging the students with B.Sc. degrees into one-year deficiency course before they move on to M.Sc. (Hons.) courses. The program, which is equivalent to M.Phil encompasses one-year research period.

Eligibility criteria:

1. The applicants who have the following qualifications will be eligible for admission to M.Sc. (Hons.) in MPPL:
    a. B.Sc. (Hons.) four years degree in MPPL from the University of the Punjab.
    b. B.Sc. (Hons.) in Agriculture majoring in Mycology/Plant Pathology.
    c. Students with B.Sc. degrees in Botany, Zoology & Chemistry will be offered extra courses to cover deficiency as per decision of the department admission committee.
2. Total number of seats, their allocation and procedure for admission will be decided by the Board of Studies in MPPL each year.
3. The merit for admission among the candidates of different backgrounds will be determined by the Board of Studies in MPPL.
4. The department shall hold an admission test. The weightage of this test shall be 30%, while 70% weightage will be given to academic record for determining the overall merit for admission. The paper for admission test will be designed to judge the comprehension of the candidates. The paper shall be of objective type and the pass marks shall be 50%.
5. Maximum age limit is 26 years.

Department of Mycology & Plant Pathology is playing an important role in preparing our generation to understand the agricultural problems of our country, especially plant diseases & their remedies.

The encouraging atmosphere of the department enables us to learn in a friendly environment. Scientific labs for practical training, computer lab to keep pace with global vision, field tours, projects & presentations with visual aids; all things are present to make us professional in our field.

Usually students say that they can't see their future but I think my life has just started after entering in this department.

Azmatullah Khan
B.Sc. (Hons.) 5th Semester

Ph.D. Regular 3-5 Years

With the provisional approval of regulations and syllabi by the worthy Vice-Chancellor, department started Ph.D. admissions. First group of seven students was admitted in the winter semester of the academic year 2003. Two more batches are then enrolled in regular three year PhD program. Four Ph.D. students under non-regular program are in final stages of thesis compilation. Department focuses to provide valuable opportunities for life long learning to professional plant pathologists.

The minimum period of Ph.D. programme is four years (Incase of an M.Phil/MS minimum period shall be two years), whereas the normal period is up to 5 years. Student has to take not less than 96 credits. These credits will include 48 (30 +18) credits for course work plus additional course work of 18 credits and 48 credits for research. Student will undertake the comprehensive examinations before undertaking additional course work. There are two semesters in each year, winter and spring, of 18 weeks each. The first semester normally starts on second Monday of September each year and terminate by mid January. The second semester starts on second Monday of the following February and its examinations held by mid June. To continue Ph.D. studies CGPA ≥3.0 is prerequisite. Biannual reports are submitted by research supervisors regularly.

Eligibility criteria:

The applicants who have the following qualifications will be eligible for admission to Ph.D. program in MPPL.

1. M.Phil. in Botany (specialization in Mycology/Plant Pathology).
2. M.Sc. (Hons.) in MPPL and M.Sc. (Hons.) in Agri. (major Plant Pathology) shall be considered equal to M.Phil. for all practical purposes.
3. Candidates with M.Sc. in Botany (specialization in Mycology/Plant Pathology) or equivalent are also eligible.

Study Tours

Field study tours are an integral part of our curricula. Various categories of tours are arranged on a regular basis to complement the ongoing semester courses. These include local trips, one day tours, and long trips spanning over 7 to 10 days. On these trips, students are exposed to relevant scientific organizations, model farms, orchards, crop fields, as well as, flora of the northern areas of the country. These trips are very useful for the students, and help them apply what they have studied, to actual situations in the field. After this field work, students are expected to submit a report, which is graded by their instructors. During the past few years, sites like Murree, Ayubia, Khanspur, Galliat, Sawat, Kalam, etc. have extensively been explored for their unique environment and biological diversity. These study tours not only provide a recreational break but also open new research avenues for students in the field.

PGD Courses

There is an increased need and expectation for multidisciplinary approach to problems, hence there is an urge to develop stronger connections between Mycology and Plant Pathology and other allied disciplines. Department is ready to launch following Postgraduate Diploma (PGD) courses which would contribute to a greater public understanding of science and furtherance of teaching and research in most desired areas of commercial and industry oriented manpower training.

1. Industrial mycology
2. Food biotechnology
3. Medical mycology

First two PGD courses have been designed in cooperation with PCSIR laboratories and are ready to launch in December 2006, whereas third course was developed with experts from King Edward Medical College and will be launched in January 2007.

facilities

Through new technologies, more efficient communication tools, and broad educational back ground, graduation of MPPL will be more effective, devising and disseminating practical solution for management of plant diseases. Therefore the major emphasis of MPPL is to provide adequate lab facilities to the scholars.

General Labs

Presently five general labs are working to accommodate research and course practicals of graduate and postgraduate classes. The labs are equipped with general requirements for basic research.

Research Labs

Five research labs have been established to facilitate research on various ongoing national and international projects, and Ph.D. research. Following labs have been equipped accordingly:

1. Industrial mycology
2. Molecular pathology
3. Phytovirology
4. Seed and post harvest pathology
5. Tissue culture

Culture/Growth Rooms

For bacterial and fungal isolations and purification, department has adequately facilitated culture and growth rooms.

Computer Lab

The department has a computer lab with 10 P-III connected with the Internet. All computers are located in one Lab available from 8.00 am to 5.00 pm six days a week to all students and staff. Besides that 6 computers have been specially designated for Ph.D. students and teaching staff.

Library

In addition to textbooks and recent issues of reference books, the library has substantial collection of local and foreign periodicals and newspapers. Guidance and reference services are provided to all the students and research scholars on informal and formal basis. Details of the holding are listed on the library's catalogue. During the present fiscal year department has highly upgraded library through purchase/purchasing most recent books of worth Rs. 6.5M sponsored through PC1 by HEC and special grant from the worthy Vice chancellor.

Audio-visual teaching aids

Beside all above amenities, teachers are also provided with audiovisual facilities like overhead projectors and multimedia.

Experimental Station

Any science department related with agriculture remains incomplete until supplemented by Experimental areas in addition to scientific laboratories. New plant diseases continue to emerge due to pathogen evolution, international travel and trade and alteration in climate. Investigations in open plots provide a better understanding of host pathogen relationship in natural environment. Our new department was allotted a small plot of about 3 acres on 15.7.03 northwest of Botanical Garden and west of University vegetable farms. Extensive work was carried out round the clock on ploughing, precision leveling, plotting and landscaping under the keen eyes of Dr. R. Bajwa, Chairperson of the Department. The piece of land was converted into an attractive, functional unit for precise phytopathological experiments. The opening ceremony was arranged on 13th Feb. 2004 and was inaugurated by our Worthy Vice-Chancellor Lt. Gen. (R.) Arshad Mehmood. Further allocation of land has been extended to cover 7 acres which is presently in process of development for M.Sc. & Ph.D. research. One growth tunnel, one growth chamber and wire-netting house have already been erected at new location.

seminars/symposia for students

Foreign Experts Hiring Program

Department is also keen to get benefit from various short-term foreign experts hiring programs for its faculty development. As in 2005, Dr. Sirajul Hasan, consultant/research scientist, European Biological Control Lab (EBCL) USDA-ARS, a well-known expert on biocontrol of weeds visit MPPL for two months under NTP Programme sponsored by Ministry of Labor, Manpower and overseas Pakistanis. He worked on biocontrol of weeds of crops and trained students and faculty members of MPPL in this field.

I am proud to be a part of this department. Apart from building conceptual knowledge of the subject, the competent and punctual teachers have greatly enhanced my confidence and ability to communicate.

The computer, library and laboratory facilities provide us with a better chance to acquire indepth knowledge.

Teamwork is the major strength of this department.

Sadia Hashmi
M.Sc. (Hons.) 3rd Semester

Lectures by Visiting National & International Experts

Department is regularly arranging weekly seminars far last two years in which we invite expertise in diverse fields to broaden view of our students and faculty. National as well as international speakers have been invited to talk on diverse issues on this forum.

1. Mr. Abrar Ahmad – PSO & Head Biostratigraphy section, HDIP, Islamabad talked on Lignite coal on Jan, 2004.
2. Dr. Mushtaq A. Saleem, Entomologist & Principal College of Agriculture, B.Z. University Multan, talked on Classification of insecticides on 13 Jan 2004.
3. Dr. Iftikhar Ahmad – Dty, D.G. PARC Isl & Co-ordinator of IPM program of FAO, shared experiences on Use of pesticides in Pakistan on 21 Jan 2004.
4. Dr. Shazia Irum, delivered lecture on Biological fertilizer technology, on 13 January 2005.
5. Miss Tehmina Anjum, Lecturer MPPL delivered lecture on Spaying Molecules, on February 2005.
6. Dr. Abdul Nasir, Technical Training Manager, Ali Akbar Group of Pesticides talked on Pesticide industry in Pakistan, on 7th April 2005.
7. Dr. S.S. Alam, NIAB, Faisalabad, presented his research findings under the topic of “Phytotoxins from chickpea blight and wilt, on 24 November 2005.
8. Abbas Maqbool, M. Phil student NIBGE, presented lecture on “Improvement of cotton fiber

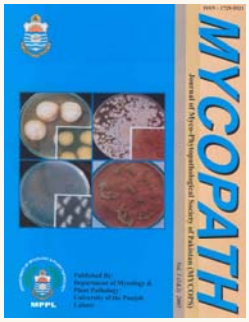
quality through genetic engineering" on 9 March 2006.

9. Dr. Steve Adkins, Associate Professor, School of Land and Food sciences, University of Queensland, Australia, visited MPPL and delivered talk on Parthenium hysterophorus on 16 March 2006
10. Mr. G. Abbas, Agriculture University Faisalabad, talked on Indoor plants and horticulture on16 March 2006.
11. Dr. Faheem Aftab, Assistant professor, Department of Botany, University of the Punjab, talked on Forcing and in vitro establishment of softwood shoots from large stem segments of woody plants on 30 March 2006.

departmental publications

departmental publications

For the growth of the subject of Plant Pathology, department is also taking help of print media. We are successfully publitioning our research journal and many newsletters with the rationale of knowledge dissemination. Department ensures the circulation of these publications in other universities, research institutes and libraries nationwide.

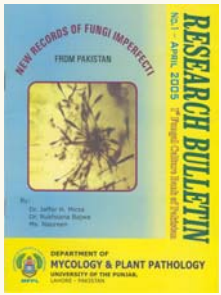


MYCOPATH

To serve the scientific community in the field of Mycology & Plant Pathology, the Department started a biannual journal by the name of MYCOPATH (ISSN 1729-5521) in 2003. The research journal publishes original research papers and review articles after peer reviewing. Four issues are already out and we are preparing for the fifth.

MYCONEWS

The Department also has the honour to publish a quarterly newsletter entitled 'MYCONEWS', under the auspices of FCBP (First Fungal Culture Bank of Pakistan) regularly since June, 2003 and has just completed its three years of publications (12 issues) and the September, 2006 issue is almost ready for publication. In this publication, apart from news, views and research notes, the most important regular feature is a list of more than 50 new assimilation of fungal cultures in each issue published as "Current Inventory of FCBP".



RESEARCH BULLETIN

FCBP is also publishing (irregular publications) Research Bulletin. Two of these bulletins have already been published on Fungi Imperfecti and Coprophilous fungi.

HERBAL HERITAGE GARDEN UPDATES

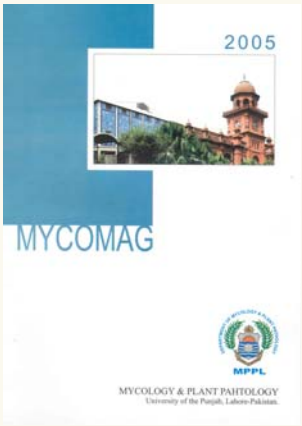
A quarterly newsletter has been set off to compile contemporary activities in departmental project of herbal heritage garden. The newsletter also covers new collection of medicinal flora in herbal garden.

PARTHENIUM NEWS

Parthenium weed (*Parthenium hysterophorus* L.) is a serious invasive exotic weed spreading throughout Pakistan. Worldwide, it has been designated as one of the most troublesome weed species. The adverse effects of this weed on human beings, livestock, crop production and biodiversity are well documented. Department of Mycology and Plant Pathology is working on various aspects of this alien weed. Departmental updates regarding nationwide surveys, physiology and biocontrol of this weed. Department of MPPL, University of Punjab organized a national symposium on the awareness of Parthenium weed from 6-7th August 2004. Scientists, teachers and students from various parts of the country participated in this symposium and recommendations were formulated to create awareness about this dreaded weed in scientific and non-scientific community. PARTHENIUM NEWS: a biannual newsletter is publishing from department. Moreover the circulation of this newsletter is aimed to create awareness among general public to minimize the spread of parthenium.

MYCOMAG

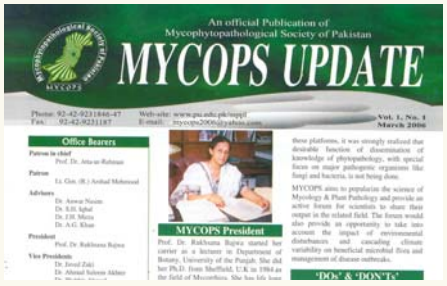
Students of department have provided opportunity to express themselves in yearly student magazine MYCOMAG. Students have a chance to practice a variety of text types - articles, reviews, letters, crosswords, cartoons, graphics and stories. MYCOMAG provides integrated skills practice, allows students to contribute each according to their ability and interests, provides a focus for written work, encourages attention to style and accuracy, provides a discussion and negotiation forum and encourages learner autonomy, co-operation and motivation. This helps students to groom their personalities and to develop executive skills in them.



departmental society

In a meeting of eminent Mycologists and Plant Pathologists held on 07.01.05, it was decided to establish Mycophytopathological Society of Pakistan (MYCOPS). Dr Atta-ur-Rehman, Federal minister & Chairman Higher education commission and Lt. Gen (R) Arshad Mahmood Vice Chancellor, Punjab University very kindly accepted to be Chief Patron and the Patron respectively of the society. Dr. Bajwa, Chairperson MPPL, was asked to serve as the president of the society. MYCOPS recognizes the need to look into the future to best position the discipline to meet future societal needs and scientific opportunities. The society rapidly attracted the mycologists and plant pathologists countrywide. Today the society is successfully working to bridge the gap between academia and industry.

MYCOPS UPDATES


An official Publication of
Mycophytopathological Society of Pakistan
MYCOPS UPDATE
Office Bearers
MYCOPS President

A newsletter with the name of “Mycops update” has recently been started. This newsletter brings up to date accomplishments and progress of departmental Mycophytopathological society. The forum provides an opportunity to take in to account the impact of environmental disturbances and cascading climate variability on beneficial flora and management of disease outbreaks. It also highlights forthcoming national and international conferences of subject. Research articles, news and views of related issues are a central feature of this publication.

departmental research

departmental research

National Level Projects

First Fungal Culture Bank

A sustainable mechanism for future stewardship of valuable scientific resources especially microbial cultures promotes long term studies essential to independent replication and ensures credibility of findings. The 1st Fungal Culture Bank of Pakistan is working with the Department since June 2003 with the following objects:

1. Conservation, identification and preservation of local mycoflora
2. Supply of authentic cultures to researchers on nominal charges all over the country.
3. Collaboration with international microbial culture banks.

Bank has the honour to own well over 700 fungal accessions. It is regularly publishing a quarterly newsletter “MYCONEWS” since June 2003. In addition Research Bulletins have also been published so for. FCBP has also the honour of holding a week long workshop on Identification and Conservation of Micromycetes for in service training of young lecturers and researchers from 23-28 August 2004 with the financial support of HEC. It has provided internship training to two students of Punjab University and one of the Arid Agriculture University Rawalpindi on isolation in pure culture. It is registered with three international organizations namely World Data Centre for Microorganisms (WDCM), World Federation of Culture Collection (WFCC) and Microbial

Research Center (MRCEN). It has entered in a new phase after approval of its PC1 by Higher Education Commission of Pakistan for its up-gradation. Now we are aimed to upgrade the Fungal Culture Bank of Pakistan into a National Microbial Culture Centre. We have already started culture collection of bacteria and would like to add viruses and nematode cultures as well.

Herbal heritage garden

A project with the name of Herbal Heritage Garden is running under this department. Main objectives of the project are:

- To collect and conserve herbal flora of Pakistan.
- To select most important medicinal plants for propagation on mass scale.
- To develop tissue culture techniques for these selected medicinal herbs for their mass propagation.
- To extract natural active ingredients from the important medicinal herbs.

The garden has over 200 collections of herbs and surveys for the collection of more species are in progress. So far these plants are being collected in the Department. In future they will be planted in the field soil of the Garden. A building with many laboratories is under construction and is likely to be completed before the closing of this year. The extraction unit for future research on active components is under development in cooperation with PCSIR Laboratories Pakistan.

Shisham Decline

Shisham (*Dalbergia sissoo* Roxb.) of family Papilionaceae is an important plant of great economic importance. Its wood is very hard and is best suitable for furniture. This precious tree has been inflicted with dieback or decline in recent years. Department of Mycology & Plant Pathology is

actively working on the problem and considerable work has been done. A through survey of four districts was carried out in 2003 to investigate for the causes of decline. Later on in 2005 an intensive survey of the entire province of Punjab was undertaken and data regarding dieback incidence and severity was collected from all the main SHisham plantations as well as from agricultural farms, and along roadsides and canal banks. It was found that drought, high soil moisture and fungal pathogens are responsible for the menace. Two diseases viz. wilt and dieback were recognized. Benomyl was recommended for the control of wilt in young plants of about 10 year old. On the bases of variations in different morphological characters nine different varieties of shisham were initially identified among which some are documented as resistant varieties against the dieback. The authority of these findings was established through DNA typing test performed at NIBGE. Later on nine more varieties were identified. We are now looking for disease resistant plants derived through multiplication of resistant varieties or enhanced plant

breeding and/or genetic engineering which are cost effective and environmentally sound strategies for plant disease management in future. Biological control of pathogen responsible for the disease is another aspect on which department is working on.

Ph.D. Projects

We are most concern to the practical aspect in the field of Plant Pathology. Projects are therefore designed with clear objectives and taking their applicability in account. In past we have successfully completed projects on various aspects of allelopathy, biofertilizers and biocontrol technologies. Now we are more emphasizing on molecular and biochemical aspects of various pathological problems. Projects on enzymology and fungal taxonomy are also worth mentioning.

Projects completed (2002 – 2006)

- Prospect of EM and VAM technology for improved growth yield and nitrogen fixation in Vigna rediata (L.) Wilczek.
- Role of VAM and other soil fungi as biocontrol and bioindicator agents for some economically important crops of Pakistan.
- Biological control of weeds of rice through mycoherbicides
- Fungal pathogens as biological control agents of weeds of wheat
- Allelopathic potential & residual activity of Sunflower on proceeding crops
- Allelopathic effect of rice mulch on proceeding crops
- Sunflower allelochemicals as natural alternatives of herbicides for weeds of wheat
- Pathobiology of Shisham dieback in agroecological zones of Punjab
- Rust flora of Pakistan

Projects in progress

- Fungal strain engineering for production of Pectinase to be scaled up through industrial collaboration
- Genetic modification of potential fungal species to evolve high cellulose yielding strain
- Genetic excitation of selected amylase producing fungi to enhance their amylase production potential
- Bio-treatment of effluents of electroplating and leather industries
- Sugarcane development through tissue culture and establishment of mycorrhizal association for yield & recovery enhancement
- Integrated disease management of pathological problems in Gladiolus
- Morphological & Molecular characterization of genus Aspergillus in Punjab
- Plant allelochemicals as antifungal agents against ***Ascochyta rabiei***

Funded Research Projects

- Phenolic allelochemicals of sunflower as natural herbicide for weed management in wheat. HEC funded Project (2004 – 2006)
- Commercialization of VAM technology for higher farm production. HEC funded Project (2006 – 2008)
- Improvement of *Triticum album* to enhance the Protenase K production. Funded by Punjab University (10.01.05)
- Pathobiology of shisham dieback in three ecological zones of Punjab. Funded by Punjab University (10.01.05)

- Study of the seasonal spore dynamics of arbuscular mycorrhizal fungi and their interspecific interaction in rhizosphere soil of three important crop plants of Pakistan. Funded by Punjab University (10.01.05)
- Investigation on pathological constraints of cut flowers in Punjab. Funded by Punjab University (10.01.05)
- Biochemical markers of free-living fungi from heavy metal contaminated soils. Funded by Punjab University (10.01.05)

department in extramural activities

There are many things for you to look forward to, once you decide to join the Department of Mycology and Plant Pathology. Life at MPPL provides all possible opportunities to excel in both physical and mental capabilities. Beside Annual sports week, Welcome, Eid Milan and Iftar parties, students and faculty organize special days and walks for noble causes and fund raising.

Some recent highlights of such activities are shared here:

Floral Arrangement Competition

MPPL organized floral arrangement competition (both fresh and dry) to celebrate the spring festival on 14th April 2006. Students from various departments of Punjab University participated in the competition. Mrs. Amna Kashif, a well-known social worker was invited as chief guest to honor the occasion. The Jugdes were Ms. Rabia Nawab and Ms. Hafza from the department of Fine Arts, Punjab University, Lahore.

Tree Plantation Day

Tree plantation day was carried out at MPPL on 18th Nov. 2005. All faculty members and students warmly participated in the event.

Students' play

The play "Doctor Faustus" by Christopher Marlow directed by Ms. Fatima Tajamal Hussain, lecturer in English, MPPL and performed by B.Sc. (Hons) 2nd Semester students on 21st April 2006 was appreciated and enjoyed equally by the students and teachers.

Supporting Staff

- Mr. Muhammad Aslam, PA to Chairperson
- Mr. Muhammad Taufiq Asghar, Accounts Clerk
- Mr. Ahsan Zaidi, Junior Clerk - Publication Cell
- Mr. Khuram Shahzad, Junior Clerk - Undergrads Office
- Ms. Shazia Zaman, Library Assistant
- Mr. Sajad, Library Attendant
- Mr. Irfan Mahmood, Storekeeper
- Ms. Aliya Ahmad, Laboratory Assistant
- Mr. Muhammad Ejaz, Laboratory Attendant
- Mr. Muhammad Iqbal Shad, Laboratory Attendant
- Mr. Sarfraz Nawaz, Laboratory Attendant
- Mr. Abid, Laboratory Attendant
- Mr. Muhammad Nasir Shah, Naib-Qasid
- Mr. Abdul Raffay, Naib-Qasid
- Mr. Irfan Ali, Naib-Qasid
- Mr. Samsoon Masih, Sweeper

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