



# Newsletter

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WORDS\_ARE\_NOT\_ENOUGH  
Message\_from\_the\_Director,\_His

The most fascinating aspect of Horticulture is its world wide adaptability and diversity. The subject was reckoned with as the most sustainable source of food security, health security and economic security in the latter half of 20th century by the developed world.

The emerging role of vitamins and micro elements contained in fruits and vegetables, in the protection against serious ailments has been proven beyond doubt to cause a shift from basic nutrients (Calories, protein) to balanced diet (calories, proteins, vitamins, micro elements and roughages). Beside these aspects, the subject is environment friendly.

Not only the intake of horticultural products in Pakistan is much below the recommended level for ensuring healthy life but also foreign exchange earnings rely overwhelmingly on cotton alone. Realizing the risk involved in narrow based economy,

the Government is striving to broaden the base by patronizing high value horticultural crops which would address the issue of unemployment and poverty in the marginalized rural landscapes as well. With this end in view, the government has launched various projects for uplift of Horticulture in the country.

Realization of goals of these projects depends primarily on effective transfer of technology to end users. Extension wing of Agri Deptt is not well equipped to meet the challenges. Such gaps and lapses of concerned quarters can be filled through activities of Pakistan Society of Horticultural Sciences (PSHS). Working with diligence it can help achieving the cherished goal of rural prosperity. I wish all the success in its endeavors to improve national destiny.

Prof. Dr. Muhammad Aslam Pervez  
Director,  
Institute of Horticultural Sciences,  
University of Agriculture,  
Faisalabad



University of Agriculture,  
Faisalabad



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PSHS Sports Festival, 2007.  
PSHS Cabinet Get together  
Inauguration ceremony of Controlled Atmosphere Technology.

## ANNUAL CHRYSANTHEMUM & AUTUMN FLOWER SHOW (PHOOL MELA, 2008)

Flowers are a sign of friendship and peace and explain feelings and give message silently. Pakistan Society of Horticultural Sciences, IHS

organized a two day "Annual Chrysanthemum & Autumn Flower Show (Phool Mela)" on 17-18th December, 2008.



Prof. Dr. Iqrar Ahmad Khan, Vice Chancellor, University of Agriculture, Faisalabad, as chief guest inaugurated this beautiful eve. Chrysanthemum flower exhibition, Cut flowers arrangement, Fresh & Dry flowers Arrangement and Special Display were the salient features of this show. Government,

Semi-government,

Private organizations & institutions, private nurseries and large number of students from different colleges and schools actively participated in this exhibition to make it successful and beautiful. Among major competitors, Nuclear Institute of Agriculture & Biology (NIAB), Nuclear Institute of Biotechnology & Genetic Engineering (NIBGE), Ayub Agricultural Research Institute (AARI), Sitara Chemicals Industries (Pvt.) Limited, Institute of Horticultural Sciences, UAF, Home Economics Deptt. UAF, Estate care Department, Rehman Nurseries, Qadir

Buksh Nursery and Mian Flower Land were the prominent ones. In "Division A" 11 entries were received for potted chrysanthemum display, 43 entries for various classes of chrysanthemum and Roses cut flowers in group 1 and group 2 were received respectively. In "Division B" 11 competitors participated in potted chrysanthemum display and 10 in various classes of chrysanthemum and Roses cut flowers were received in group 1 and group 2, respectively. On the other hand, 24 entries were in dry flower arrangement and 72 entries were in fresh flowers arrangement competition in group 2 in Division "D". In special display, 7 entries were received. Nuclear Institute of Biotechnology & Genetic Engineering (NIBGE) was declared as the winner of the Phool Mela, 2008. PSHS become eligible to organize this show with the endless



efforts of Prof. Dr. Aslam Pervez, Director Institute of Horticultural Sciences, Prof. Dr. M. Aslam Khan, Project Director, HIS, Dr. Ahmad Sattar Khan Convener, PSHS, Mr. Itikhar Ahmad Coordinator, PSHS, Dr. Atif Riaz, Advisor PSHS, Mr.



Shoaib-ur-Rehman, Advisor PSHS and cabinet of PSHS under the leadership of President, Mr.

Mueen Iqbal. Prof. Dr. Nadeem Akhtar Abbasi, Chairman, Dept. of Horticulture, PMAS Arid Agriculture University, Rawalpindi, Dr. Tariq Iqtidar, Director, Directorate of Floriculture (Punjab), Lahore, Mian Mumtaz Khaliq, Secretary, Gardeners' Club, Faisalabad, Zafar Iqbal, Horticulturist, Gardeners Club, Faisalabad, Dr. Muhammad Qasim, Associate Professor, IHS, Mrs. Ayesha Riaz lecturer, Home Economics Deptt., UAF, Mrs Tehmina Afzal, Chairperson, Deptt. of Fine Arts, GC University Faisalabad, and Mr. Umer Habib, Lecturer (Floriculture) Dept. of Horticulture, P M A S Arid Agriculture University, Rawalpindi served the duties as member of evaluation

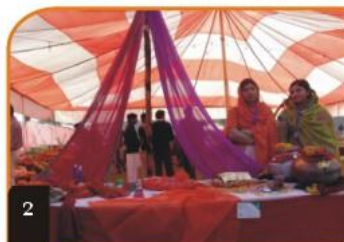


committee. On 18th December, prize, shields & certificateds were distributed to the winners and participants of the mela in closing ceremony. At this memorable occasion, Prof. Dr. Itikhar Ahmad Khan, Dean Faculty of Agriculture, Faisalabad also graced the ceremony. Prof. Dr. Aslam Pervez, Director IHS, Prof. Dr. M. Aslam Khan, Project Director IHS and Mr. Mueen Iqbal, President PSHS also spoke on this



occasion and highlighted the main features of this show and presented a vote of thanks to all the participants. On this occasion there was also an arrangement of Cultural show for entertainment of visitors in the evening along with traditional food stalls which were introduces in the university for the first time, which were liked by the visitors. This show was organized with the financial

collaboration of Energy Transmission and Telecommunication Networks (Pvt.) LTD, Pak Arab Fertilizers, Horti-Club and Pepsi Internationals. At the end all participants and visitors were served with Hi-Tea.



## ONE DAY SEMINAR ON MEDICINAL MUSHROOM

Health is a real asset of God for human beings. Due to good health we all are here and struggling to achieve our goals. Nowadays it's a challenge for every one to achieve and to maintain a real standard of health. Increasing population has polluted water, food, air even every thing. Our modern life style and its created mental restless has weaken our body internally and externally now we have no resistance against diseases. Plants & their products can provide a resistance power against many diseases & disorders. Keeping in mind the miserable condition of mankind, on 19th December, 2008 Pakistan Society of Horticultural Sciences organized an "Introductory seminar on Medicinal Mushroom (Ganoderma)" in collaboration with D×N Company, Malaysia in Institution of Horticultural Sciences, UAF, to create an



environment of awareness among the people. D×N Malaysia is an international institute which at the top in the production of Ganoderma mushrooms. In Malaysia, it is a big importer of Ganoderma mushroom. Mohammad Fatemi Ghani, International Health and Business Coach & representative of D×N, company delivered a lecture regarding this. Seminar lecture started at 9:30 am in the Landscape Studio, IHS. Ganoderma is a cure against many diseases. Different aspects of mushroom especially Ganoderma, i.e. its medicinal value, marketing strategy, its products especially D×N mushroom powder, 3 in 1 Lingzhi coffee, Lingzhi black coffee, Lingzhi tea, Ganozhi



shampoo & toothpaste, Ganozhi soap and their miracle impact on human health were discussed. A large quantity of teachers as well as students attends this lecture. Mohammad Fatemi Ghani said "Ganoderma luicidum is costly mushroom and its evidences are found in Chinese history. It is also thought that Ganoderma is a "Food of Emperors" and its achievement for a common man is just like a dream. But now D×N is playing a vital role in transferring the Ganoderma products to the every man in its pure and best natural form. Prof. Dr. Aslam Pervez, Director HIS, Dr. Asif Ali Khan, Mushroom Expert and Dr. Fida Hussaain who is certified in Complementary & Alternative Medicines, also graced the ceremony.

### Honor for the Institute.

It's a great honor for the institute that following staff members of the IHS has gone for their post doctoral studies in different countries of the world.

Dr. Chaudhry Muhammad Ayub has made his way to United Kingdom for Post doctorate studies in University of Nottingham, U.K.

Prof. Dr. Muhammad Amjad has gone for their Post doctorate studies in Greenwich University, U.K.

Dr. Adnan Younis, has gone to United States of America for Post doctorate studies in University of Minnesota, USA.

PSHS is really proud of such brilliant teachers & scientist and pray for their future success.

## PSHS WELCOMES THE YOUNG HORTICULTURIST

PSHS has welcomed the young Horticulturist (5th Semester) for their selection of major Horticulture for their further studies. Executive Council of society also welcomed and hoped that "Young Horticulturist" will follow and continue our mission because PSHS is committed to make Pakistan a nation of professional Horticulturist, to inspire all Pakistanis to become caretakers of Land & Environment, to celebrate Pakistan biodiversity through the art and science of the Horticulture, to lead this effort by sharing the society's unique national resources with all Pakistanis.

### PSHS WELCOMES VICE CHANCELLOR'S APPOINTMENT

\*\*\* PSHS congratulates Prof. Dr. Iqrar Ahmed Khan on being elected as Vice Chancellor of University of Agriculture, Faisalabad.

### PSHS CONGRATULATES THE INSTITUTE FOOT BALL TEAM

M.Sc Foot ball team of Institute of Horticultural Sciences has won the football final match in the Sports Gala, 2007 organized by the Agrarian Society, University of Agriculture Faisalabad. PSHS congratulates the players for winning.

### PARTICIPATION IN TAQREEB-E-GUL, 2008

Pakistan Society of Horticultural Sciences also participated in Taqreeb-e-Gul, 2008 organized by the Gardener's Club in "D" Ground, Faisalabad on December 19 to 23, 2008. One of Our members Miss Maryam Gillani from Plant Pathology section, represented the Pakistan Society of Horticultural Sciences, in poster competition and we stand 1st in the competitions.

## In Auguration Ceremony of Short term courses

Pakistan Society of Horticultural Sciences is working for the benefit of farmers and students and facilitating them by organizing different short term courses, seminars, workshops and international symposium since many years. Recently PSHS has organized two short term courses on "Nursery Management" & "Mushroom Cultivation". An inauguration ceremony of these short term courses was organized on 04-11-2008. Worthy Chief Guest, Prof. Dr. Muhammad Aslam Khan, institute of Horticultural Sciences, University of Agriculture Faisalabad presided the session. Guest of Honor Dr. M. Jaffar Jaskani, Dr. Ahmad Sattar Khan, Convener PSHS, Mr. Iftikhar Ahmad, Coordinator PSHS, Prof. Dr. F.M.Tahir, Dr. Muhammad Usman, Dr. B. Fatima, Mr. Shoaib-ur-Rehman, Lecturer IHS, Mr. Krim Yar Abbasi, Lecturer IHS, Mr. Irfan Ashraf, Lecturer IHS, Miss Nazeela Azhar, Lecturer, IHS, also graced this session. First of all, Mr. Mueen Iqbal, President PSHS, delivered a welcome address. At the end, Chief Guest, Prof. Dr. Muhammad Aslam Khan, Project Director, Institute of Horticultural Sciences, University of Agriculture, Faisalabad, delivered the words of wisdom & extended cooperation for such healthy & academic activities of the society.

A Premier course on "Nursery Management" was started from 04-11-08. Duration of this course was seven days till 11-11-08. More than 50



participants were enrolled for this course which included not only postgraduate students but also university employees & progressive growers. Professors & lecturer especially Dr. M. Jaffar Jaskani, Dr. Ahmad Sattar Khan, Dr. Muhammad Usman, Mr. Shoaib-ur-Rehman, Mr. Irfan Ashraf & Mr. Iftikhar Ahmad played a vital role in the completion of this course.

Then on 18th November 2008, a Premier course on "Mushroom Cultivation" was organized by Pakistan Society of Horticultural Sciences. Duration of this course was also a one week till 24-11-08. More than 40 undergraduate, postgraduate students, university employees & progressive growers participated. Dr. Asif Ali Khan, Associate Professor, IHS & Mushroom Expert served their duty as a course instructor. Mr. Manzoor Aslam also cooperated in the timely accomplishment of this course.

At the end of these courses, written exam was taken for evaluation. Mr. Shafique and Mr. Muhammad Fahad, M.Sc scholar of Institute of Horticultural Sciences got the 1st positions in Nursery management & Mushroom Cultivation courses respectively. Organization of these short term courses was the result of endless efforts of the respected teachers & cabinet members of PSHS under the leadership of Mr. Mueen Iqbal, President PSHS.



## ONE DAY SEMINAR ON PRODUCTIVITY ENHANCEMENT IN TUNNEL FARMING THROUGH HIGH EFFICIENCY IRRIGATION SYSTEM

Institute of Horticultural Sciences has organized a one day seminar entitled as "Productivity Enhancement in Tunnel Farming Through High Efficiency Irrigation System" on October 22, 2008 with the collaboration of DADEX, a multinational company. Seminar started

on "Present status and Future Scope of Poly tunnel Farming". Then Mr. L.B. Joshi from India, shared his views regarding "Productivity Enhancement in Tunnel Farming through High Efficiency Irrigation System". Mr. Shoaib-ur-Rehman, Lecturer IHS briefly described all the participants with "Production Technology of Vegetable Forcing". At the end Dr. Atif Riaz, Assistant professor IHS, presented a vote of thanks to all the participants. Mr. Hanif Adrees, Divisional Head Zarkash Agriculture was the chief Guest of this Workshop. Regional Manager of DADEX in Punjab, Mr. Nadeem Afzal was also present in this moment. A large number of researchers, progressive farmers,

with the recitation of few verses from the Holy Quran. Prof. Dr. Aslam Pervez, Director Institute of Horticultural Sciences presented a welcome address after this respected Director delivered a lecture

## ONE DAY WORKSHOP ON SUPER CRITICAL FLUID EXTRACTION TECHNOLOGY

A highly informative one day workshop on "Super Critical Fluid Extraction Technology for high value non traditional Horticultural crops" was held on October 21st, 2008. This was organized by Rose Project, Institute of Horticultural Sciences, UAF and sponsored by Ministry of Science and Technology Islamabad. The main purpose of this one day workshop, organized at new senate Hall, UAF was to give a brief over view of the first ever imported technology of SCFE in the country. Dr. Swapneshu Baser, the manufacturer of SCFE plant from Deve Supercriticals, India delivered an extremely informative lecture on this technology and its uses in Agriculture. In the beginning after recitation from Holy Quran, Prof. Dr. Aslam Pervez, Director IHS



welcomed the Indian delegation and all the participants of workshop from all over Pakistan. Director Rose Project, Prof. Dr. M. Aslam khan briefly explained about achievements of Rose Project and its objective. He also mentioned various bottlenecks and their team's struggle which they did to introduce this technology of value addition. At the end Dr. M. Aslam khan thanked Dr. Baser and other Indian delegation members, as well as professors, teachers and the participants of the workshop. He also paid thanks to Pakistan Society of Horticultural Sciences for helping in successful management of the workshop.



## INAUGURATION CEREMONY OF CONTROLLED ATMOSPHERE TECHNOLOGY.

On 13th September, 2008 inauguration ceremony of the controlled atmosphere technology was held at University of Agriculture, Faisalabad. Mr. Nazar Muhammad Gondal (Federal Minister for Agriculture) was chief guest of the ceremony. Provincial Ministers for Agriculture like Malik Ahmad Ali Aulakh (Punjab), Mr. Arbab Jan (NWFP) and Syed Ghulam Mustafa Gilani (AJK) also graced the ceremony. CA technology is being used worldwide. The aim of CA technology is to reduce post harvest losses and availability of better quality fruits and vegetables for extended period in export market supplies and creating multiple job opportunities particularly in private sector. To introduce CA technology in Pakistan, the Institute of Horticultural Sciences University of Agriculture Faisalabad, has developed a joint R&D project in collaboration with renewed

controlled atmosphere company "Van Amerongen" \_CA Company, the Netherlands, and Ingot traders, Pakistan. This project is being funded by Dutch Government under the program for Economic Co-operation projects (PESP). Prof. Dr. Aman Ullah Malik (Post harvest Horticulture) gave introductory address. General overview and Welcome note was given by Prof. Dr. Iqar Ahmad Khan (Vice chancellor, University of Agriculture, Faisalabad). Dr. Simon P. Schouten (Netherlands) & Mr. Nazar Muhammad Gondal (Federal Minister for agriculture) also address about this technology. At the end Prof. Dr. M. Aslam Pervez (Director Institute of Horticultural Sciences) presented vote of thanks to all the people who participated in the inaugural ceremony of CA technology.



## ONE DAY WORKSHOP ON ROLE OF MEDICINAL PLANTS IN POVERTY ALLEVIATIONS

Herbal industry is the well known industry in Pakistan even in the whole world. Institute of Horticultural Sciences; University of Agriculture Faisalabad organized a one day workshop entitled as "Role of Medicinal Plants in Poverty Alleviation" on 27th May 2008 in this regard. This workshop was held under HEC sponsored University interaction project. Medicinal plants growers, hakeems, traders, herbal industries and researchers from institution of all over the country actively participated. Along with workshop an exhibition of herbal industry was also held. Workshop was arranged in new senate hall. More than 200 participants attended this workshop. Dr. Mubarak Ali, Chief executive PARB was chief guest of the inaugural session. Dr.



Rose project UAF. Prof Dr. Iqrar Ahmad khan vice chancellor, UAF & chief guest of concluding session distributed shields and certificates to resource persons and representative of herbal industry who took part in exhibition. In his address Mr. Vice Chancellor appreciated the efforts of herbal industry, traders, growers and extension workers relating to medicinal plants. He Also appreciated the Institute of Horticultural Sciences for successfully organizing a very productive event with

active involvement of herbal industries and stakeholders.



Aslam Gill commissioner minor crops MINFAL Islamabad presented theme of Workshop. Actively participating organizations in this exhibition were Hamdard Dawakhana Karachi, Ashraf laboratories Fsd. Marhaba laboratories, Aftab qarshi, BMA Okara, Medics laboratories, Karachi, Farooz Ajmali Dawakhana, Multan &



In the end, Prof DR. M. Aslam Pervez, Director IHS presented vote of thanks for all the participants and Pakistan Society of Horticultural Sciences for organizing & helping in successful management of this workshop.



Different Stalls at The Workshop

## ONE DAY WORKSHOP ON FLORICULTURE AND LANDSCAPE MANAGEMENT

On April 12, 2008, with the collaboration of Higher Education, Islamabad, Pakistan, Institute of Horticultural Sciences, University of Agriculture, Faisalabad has organized a one day workshop entitled as "Floriculture and Landscape Management". Prof. Dr. Iqrar Ahmad Khan, Vice Chancellor University of Agriculture, Faisalabad inaugurated this workshop. Before this Prof. Dr. Muhammad Aslam Pervez, Director, IHS presented a welcome address and key notes of this workshop. A large number of scholars, Professors, teachers from different Universities, Research organizations, Municipalities and Development Authorities from all over the Punjab not only participated but also shared their views to uplift this floriculture industry and landscape era. The overarching aim of this Workshop was to enable the participants to build their capacity to integrate theory and practical aspects of Landscaping. The specific objectives of the Workshop were to help the participants to:

- Learn the principles, skills, procedures and practices of Landscape and Floriculture.
- Become aware of advanced Landscape techniques for use for their own benefit.
- To introduce modern Landscape concepts to improve the quality of environment, general public health and living standards.
- Enable the participants to collaborate with national and international organizations concerned with Floriculture and Landscape.

## GENERAL BODY OF THE SOCIETY for 2008-09

### NEW CABINET OF PSHS FOR THE YEAR 2008-09 HAS BEEN ANNOUNCED

**PATRON IN CHIEF:** Prof. Dr. Iqrar Ahmad Khan  
**PATRON:** Prof. Dr. M. A. Pervez  
**CHAIRMAN:** Prof. Dr. Muhammad Mumtaz Khan  
**CONVENER:** Dr. Ahmad Sattar Khan  
**COORDINATOR:** Mr. Iftikhar Ahmad

### CABINET

**President:** Mueen Iqbal  
**Vice president:** Aurangzeb Mazari  
**General Secretary:** M. Zubair Akhtar  
**Joint secretary:** Saulat Abbas  
**Postgraduate Councilor:** H. Nazar Faried  
**Councilor 5th Semester:** Muhammad Umer

### PRESS AND PUBLICATION COMMITTEE

**Advisor:** Mr. Raheel Anwar  
**Press secretary:** Shoaib Munir  
**Members:**  
Anam Noor, Ahmad Ali, Shahid Ali

### FINANCE COMMITTEE

**Advisor:** Mr. Shoaib-ur-Rehman  
**Finance Secretary:** Muhammad Awais Rafique  
**Associate Finance Secretary:** Miss Nighat Naheed

### SPORTS COMMITTEE

**Advisor:** Mr. Karim Yar Abbasi  
**Sport secretary:** Muhammad Awais  
**Associate Sports Secretary:** Miss Najam-us-Sahar  
**Members:**  
Bilal Ahmad, Maryam, Zaheer Ahmad, Rehan Riaz

### EXHIBITION COMMITTEE

**Advisor:** Dr. Atif Riaz  
**Members:**  
M. Ajmal Bashir, Ahmad Hassan, Adnan Badar, Sahiban Sharif

PSHS warmly welcomes Prof. Dr. M. Mumtaz Khan, Chairman PSHS, who has returned from Sultan Qaboos University, Oman after completing his 6 month Teaching program under "Faculty Exchange Program" between University of Agriculture, Faisalabad and Sultan Qaboos University, Oman.

## A Flower Arrangement Exhibition at UAF Campus

Pakistan Society of Horticultural Sciences, IHS chapter organized fresh and dry flower arrangements exhibition outside the Faculty of Agriculture. Prof. Dr. Muhammad Ashfaq Chairman Dept. of Agri.



Entomology inaugurated the exhibition. While delivering his address as chief guest he said that miseries and ugliness of the Society can be reduced through exploiting the aesthetic sense among youth. The Interior decoration, flower arrangements and landscaping should be introduced as a necessary part of learning process in the



student community in order to construct their character in a soft and beautiful manner. Prof. Dr. Iftikhar Ahmad Khan, Dean Faculty of Agriculture, Prof. Dr. Muhammad Aslam Pervez, Director HIS, Dr. Tariq Iqtidar, Director Floriculture Punjab Lahore and Prof. Dr. Muhammad Amjad Chairman PSHS also spoke on the occasion and



highlighted the main features of exhibition. Aneeza Intizar and Raheela obtained first prize where as Hira, Ayesha and Sana got second prize, third prize went to Nayyara, Anum and Mariam. Aqsa Mehdi and Muhammad Adnan Liaqat achieved special prize for special display in Paintings, Sculpture, Fresh and Dry arrangements. Dr. Tariq Iqtidar, Dir. Floriculture Punjab Lahore, Prof. Dr. Muhammad Qasim of IHS, Miss Farah Riaz and Miss Kiran of Department of Home Economics performed as judges of flower arrangements contest.

## ONE DAY WORKSHOP ON ROLE OF MEDICINAL PLANTS IN POVERTY ALLEVIATIONS

By: Dr. M. Usman  
Assistant Prof. IHS,  
University of Agriculture, Faisalabad.

Plant biotechnology is an emerging science and has revolutionized the field of agriculture in the last 3-4 decades. It offers marvelous potential for crop improvement by using a) different genetic markers for paternity confirmation, genetic variability, Quantitative Trait Loci (QTL) identification and Marker Assisted Selection (MAS) etc. and 2) application of molecular biology tools for gene cloning and plant transformation for the development of genetically modified (GM) plants. Horticultural plant genome can be engineered to enhance nutritional value and to develop resistance against biotic and abiotic stresses. Moreover use of herbicide, insect and disease resistant GM crops can remarkably reduce the consumption of herbicides, insecticides and pesticides over the time.

Plant biotechnology has eventually directed agriculture from 'green to gene revolution'. Despite debates and public concerns on the development of GMOs and gene escape from crops to their wild relatives, GM crop production is rapidly rising to meet needs of the ever rising world population. If we look in to the statistics of GM plants, there has been a significant increase (~ 60 fold) in the area under GM crops from 1996 to 2007 (1.7 to 100 million hectares). Worldwide people are harvesting the benefits offered by this innovative discipline and more than 10 million farmers of the developed and developing countries of the world are involved in GM crop production. In the last couple of years India has significantly enhanced its area (3.8 million hectares with 192% increase in 2006) under GM crop production. India surpassed China last year and is currently ranked at number five amongst the top 22 world GM crop producing countries. Unfortunately, so far we stand nowhere in the world leading producers sharing negligible area under GM crops (ISAAA, 2007).

Horticultural biotechnology focuses on the use of biotechnological tools for fruit, vegetable and ornamental crop improvement. It is worth mentioning here that the major GM crops cultivated in the world are agronomic crops including cotton, soybean and maize. GM horticultural crops including disease resistant papaya and squashes are commercially cultivated only in USA. Research groups in different parts of the world are working on horticultural crops like tomato and potato as model crops and a number of other horticultural crops are under trials.

In Pakistan, conventional biotechnology particularly plant tissue culture was initiated in 1970's and now it is routinely practiced in most of the agricultural research and academic institutes. However, still there are a few crops including Potato (Punjab Seed Corporation) and Banana (Plant Tissue Culture and Biotech Lab., HEJ Research Institute of Chemistry, Karachi University, Karachi) which are commercially propagated through in vitro culture and are

available to the farmers. In the Institute of Horticultural Sciences, plant tissue culture facility is available since 1989 and the research group lead by Prof. Dr. Iqar A. Khan has been successful in the development of a potato variety PARS-70, hyperploid germplasm for citrus and watermelon through a series of research project funded by PSF and HEC. A new laboratory has been established in the institute solely for the production of disease free citrus nursery under citrus sanitation project funded by STED/MoST. Efforts are on the way to further strengthen the important area of plant tissue culture because it holds significant potential not only for propagation of plant material in bulk but also for horticultural crop improvement by using doubled haploidization, somatic hybridization, somaclonal variations and ploidy manipulation strategies etc. Nevertheless, it is also a vital requirement for efficient regeneration of the transgenic plants.

As far as the development of R & D institutes for biotechnology is concerned, Center of Agricultural Biochemistry and Biotechnology (CABB) was thought well in time and developed in UAF focused to boost up agricultural biotechnology research activities in Pakistan and offers a biotechnology degree. Other important research institutes meant for biotechnology involves Center of Excellence in Molecular Biology (CEMB), Punjab University Lahore and National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad and more recently developed National Institute of Genomics and Advance Biotechnology (NIGAB), in NARC Islamabad. There are several other research laboratories working on biotechnology in different research and academic institutions of Pakistan. Among other institutes, NIBGE has played an important role in the development and dissemination of biotechnology in the country.

It is likely to be emphasized here that most of the biotech related research institutes are focused on R&D of agronomic or other cash crops while there is less attention paid to the research and development of Horticultural crops. For example Citrus and Mango are our major fruit crops and there is negligible research work on their improvement. Similarly there are several other potential horticultural crops and germplasm looking for our consideration. There is need to ponder and rationalize our research policies and pay due attention to the horticulture sector rich in fruits, vegetables, ornamental, nutraceutical and other pharmaceutically important plants to benefit the humanity. The gap has been felt rightly and recent developments in UAF are steps in the right direction and hopefully there will be a strong linkage between the most potential areas viz. horticulture and biotechnology in future.

### OFF SEASON VEGETABLE PRODUCTION

Shoaib-Ur-Rehman, Dr. M. A. Pervez, M. Irfan Ashraf.

Horticulture is an important sub sector of Agriculture and its contribution in Gross National Products is 12%. Area under cultivation of vegetables is 1170 thousand acres with its total production 17402 thousand tones. Vegetable production plays an important role in maintaining human health by proper utilization of different plant parts. Vegetables are rich source of vitamins, carbohydrates, proteins, salts and dietary fibers. With increasing population, demand of producing fresh and processed vegetables

is also increasing to full fill their nutritional requirement.

Nature has gifted Pakistan with diverse kind of soil, geographical and climatic conditions which favor sowing and cultivation of various kinds of vegetables. Uncertainties in climatic condition and temperature fluctuation in particular region are main obstacles in open cultivation and continuous supply of produce in the market to stable prices. Moreover due to perish ability and having water



contents, vegetables are grown around dwelling and vicinity of cities and towns. So that it can be marketed immediately after harvest. Lack of proper planning, proper selection of varieties, limited storage facilities are the main factors that hinder continuous supply in the market, and reduce quality production. The emerging technology of off season tunnel cultivation technology developed by Institute of Horticultural Sciences provides and opportunity to have control cultivation and also disseminates knowledge to the growers with the objective given below.

#### Objectives of polytunnel cultivation:

To create an environment that is conducive for cultivation of Horticultural crops.

To produce according to the demand of the market.

To promote vertical cultivation which enhance quality and quantity of the produce

To introduce Intensive cultivation to get maximum out put /unit area.

To control insect pest & diseases.

To increase life span and production ability of the plants.

To minimize environmental hazards.

#### Kinds of vegetables grown in the tunnels

Cucumber

Tomato

Chilies

Sweet pepper

### Economic Feasibility of High Tunnel

Fixed cost for one acre [ for 10 year]		
Sr. #	Items	Cost Rs.
1	Steel Permanent Structure (10-15 Years) (30?180?12 feet)	1,50,000
2	Bamboo Structure (2-3 Years) (30?180?12 feet)	30,000
		35,000

### Running Cost

Sr. #	Items	Specification	Estimated Cost Rs.
1	Polythene	.09 mm, 50 kg	7,000
2	SeedRs	Rs 2-3/seed	4,000
3	Fertilizer	NPK	2,000
4	Plant protection measures	Chemicals etc.	1,000
5	Labour	For 6 months	8,000
6	Miscellaneous	Wire, electricity, water	10,000
	<b>Total:</b>		<b>32,000</b>

### Total Yield Potential

Specification	Estimated Cost Rs.
No. of plants	1440
Yield per plant	5 kg
Total yield	7200 kg
Market rate	Rs 15 / Kg
Out put	1,08,000
Net return	1,08,000 - 42,000 = 66,000
Tomato	
No. of plants	1400
Yield per plant	5 kg
Total yield	7000 kg
Market rate	Rs 15 / Kg
Out put	1,05,000
Net return	1,05,000 - 42,000 = 63,000

## DR. M. MUMTAZ KHAN

HOLDS THE OFFICE OF THE CHAIRMAN



Prof. Dr. M. Mumtaz Khan, chairman PSHS has assumed the charge of the office of the chairman. Earlier on the recommendation of Executive Council of the society, Director, Institute of Horticultural Sciences, Prof. Dr. Aslam Pervez has appointed Prof. Dr. M.M.Khan, as the chairman of PSHS. Dr Khan is the second chairman of the PSHS. He assumed his charge after the departure of Prof. Dr. Amjad for his

post doctorate studies. Dr Khan earned his PhD from University of Sheffield; U.K He was awarded many times for his achievement. Recently in 2007, Dr Khan was awarded with the presidential award (Izaz-i-Fazeelat). He has more than 22 years experience in research and administration. Dr Khan also remained a visiting supervisor and visiting consultant at Sultan University Oman.

## MR. MUEEN IQBAL

ASSUMES THE CHARGE OF THE PRESIDENT



Mr Mueen Iqbal has taken the charge as President of the PSHS. Upon the recommendation the selection committee, Chairman PSHS has appointed Mr. Mueen Iqbal as President PSHS for a period of one year for session 2008-2009. Mr. Mueen assumed his charge after completion of the tenure of his predecessor Mr. Tanveer Ahamd. Before becoming the president, he has remained as the Executive

Council member of society for two year.

## CONTACTS

### For Comments and Suggestions:

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