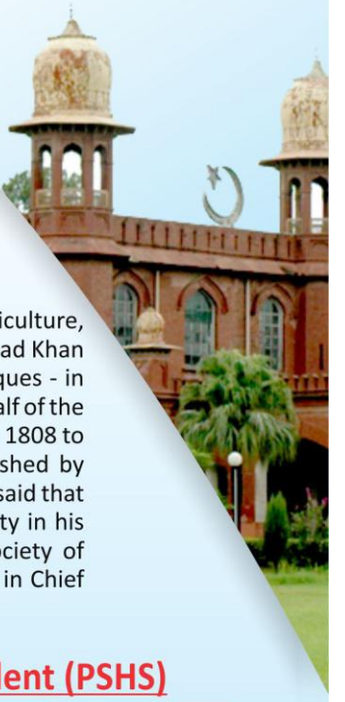
HortiMag UAF

2014-2015

Newsletter

Pakistan Society of Horticultural Sciences
Institute of Horticultural Sciences
University of Agriculture, Faisalabad



Applause in the air

French Ambassador H.E. Martine Dorance paid a visit to University of Agriculture, Faisalabad, where she conferred UAF Vice-Chancellor Prof. Dr. Iqrar Ahmad Khan (S.I.) with the highest French Civil Award – Order Les Palmes Academiques - in recognition of his tremendous services for education and research on behalf of the French government. The award was originally established by Napoleon in 1808 to facilitate those affiliated with the University of Paris. It was re-established by former French president Rene Coty on October 4, 1995. The Ambassador said that Dr. Khan had devoted his life to education and research for food security in his country in particular and for the whole world in general. Pakistan Society of Horticultural Sciences congratulates worthy Vice Chancellor and Patron in Chief (PSHS) on receiving this honor!

Message from the Director, IHS (Patron, PSHS)

I congratulate Pakistan Society of Horticultural Sciences on its revival and pray for its smooth functioning. It is providing a platform to students for practicing their skills and enhancing their aptitude in the field of Horticulture by participation in various workshops, training courses and exhibitions. It proudly establishes a link between the growers, suppliers, entrepreneurs and the young professionals. For all passionate horticulturists, it offers a chance to put their imaginations into reality of progressive horticulture taking our community, country and the wider world to classified Horticulture. Hoping for the countless novel and better things, I wish Pakistan Society of Horticultural Sciences a good luck !

Message from President (PSHS)

Pakistan society of horticultural sciences is serving for greener and healthy Pakistan with the glory in the field of Horticulture. As horticulture sector could be developed into successful business activities, Pakistan Society of Horticultural sciences began at a propitious moment following a recent global call to assist small farmers in providing the more options for entrepreneurship by providing training about business in horticulture like mushroom cultivation, cut flower production, tunnel farming and raising certified Plants nurseries. Moreover, PSHS is also striving hard to improve students skills for their better preparation to face future challenges of food security in the country.

SALIENTS EVENTS 2014-2015

- Glittering night of Horticulure 2014
- Welcome Orientation for Young Horticulturists
- One week training course on Mushroom Cultivation
- Field trip to J.K. Farms and a mushroom farm (Distt. Nankana Sahib)
- Painting and Photography Competition
- One week training course on Tunnel Farming
- One day workshop on Global GAP
- PSHS Sports Festival 2015

UPCOMING EVENTS

- One day seminar on medicinal plants
- One day workshop on Bonsai
- Flower Arrangement Workshop
- Annual dinner (Floral Feast) 2015
- One Week training workshop on Nursery Management

PUBLISHING TEAM

Editor in Chief:
Prof. Dr. Iqrar Ahmad Khan (S.I.)
(Patron in Chief PSHS)
Editor:
Prof. Dr. M. Amjad (Chairman PSHS)
Managing Editors:
Dr. A.S. Khan (Convenor PSHS)
Dr. Iftikhar Ahmad (Coordinator PSHS)
Editorial Team:
M. Behzad Rafique (President PSHS)
Munazza Hafeez (Sub-editor)
Abdul Hafi
M. Qasim Shah

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Cabinet in Action

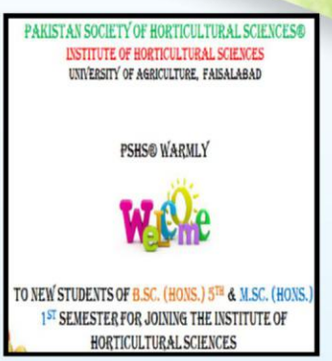
Spring came up with blooming of Pakistan Society of Horticultural Sciences. Society revived with the formation of the Cabinet 2014-2015. We congratulate the new cabinet members and wish them good luck for performing their duties whole heartedly.

President: M. Behzad Rafique, Vice President: M. Waleed Abdullah, General Secretary: Shahzina Shafi, Joint Secretary: Laraib Hameed, Secretary Finance: M. Abdus Salam Khan, Secretary Info. Tech.: Nabila Bashir, Secretary Sports(Male): M. Mehmood Ur Rehman, Councilor: M. Qasim Shah, Press and Publication Committee: Munazza Hafeez, Abdul Hafi, Bilawal Irshad Cheema, Mehak Shehzad, Samra Zaghuim and Arooge Fatima, Training and Workshop committee: Waqar Saleem, Sohail Ahmed, Zain Muhammad, Asad Akram and Maliha Mukhtar, Sports and Exhibition committee: Shaista Karim, Moaz Ahmad, Shahzeb Aslam, Ghulam Ayesha, Naima Razzaq and Tayyab.

Glittering Night of Horticulture, 2014

During busy months of study and semester termination, in June befell the Annual Function entitled "Glittering Night of Horticulture" with participation of all members of PSHS, faculty members and the staff of Horticulture. Students participated in different components namely Welcome Luddi performance, Singing, Cultural Afghani dance , modeling, humorous debates and skits. Certificates were also awarded to the toppers and students having Extra-curricular achievements. Moreover, Professor Dr. Aslam Khan was given tribute and was presented a Life time Achievement award for his tremendous services at Institute of Horticultural Sciences. Sound of applause filled the air. Qawali drew the event to a musical ending and the scrumptious dinner delighted every one.

Welcome Orientation



On October 23rd, 2014, at The New Senate Hall, all the new comers to Institute of Horticultural Sciences were cordially greeted to be part of Horticulture family. Welcome address by the Patron of PSHS Prof. Dr. M. Aslam Pervez, Chairman of PSHS, Prof. Dr. M. Amjad and the President, M. Behzad Rafique dominated the eve. A humorous debate by Zafar Iqbal and a song sung by Asad Liaqat & Amazing Guitar Played by Sawal John enthralled the audience. Making it another triumph of the society, impressive compering by Munazza Hafeez and Laraib Hameed painted smiles on all the faces. It was a well appreciated event that won laurels both from students and teachers.

One Week Training Course on Mushroom Cultivation (10-14 Nov., 2014)

Society organized an informative course on mushroom cultivation to create awareness amongst the community about mushrooms. Dissemination of knowledge of mushroom cultivation accompanying with practical training and demonstration and lab visits were conducted. Participants during the lab visits identified different species of mushrooms ranging from cultivated as well as the wild species. Students, growers and professionals participated in the course enthusiastically. Professor Dr. Muhammad Asif Ali Khan and Dr. M. Muzammil Jahangir delivered lectures on Oyster and Button Mushroom Cultivation aided with interesting and informative videos that stimulated the interest of participants. Lab visit and practical demonstration during the field visits was well conducted by Mr. Rizwan Liaqat. Mr. Hassan Sardar delivered lecture on marketing of mushrooms. During the field visits, participants were trained to make compost for Mushroom Cultivation. Every one actively particitated in making compost and filled polythene bags for spawning. Current status of Mushroom Cultivation in Pakistan and its future prospects were given an insight. Growers among the participants also shared their problems in spawning of mushroom compost. Their queries about

the Cultivation of Mushrooms in their business automatically got answered in the comprehensive lectures during the course. Closing ceremony of the course comprised of acknowledgement of endeavor of talented Mushroom Scientists Dr. M. Asif Ali Khan and Dr. M. Muzammil Jahangir on conducting the course and distribution of certificates among the participants. Certificates were handed over to participants by worthy Chief Guest Professor Dr. M. Aslam Pervez , Director, Institute of Horticultural Sciences. Feedback from a grower Mr. Bahadar Ali (participant of the course) was that he found the course very informative and filled with practical knowledge. Moreover, he was grateful to the society for organizing the course.

A Trip to JK Farms and a Mushroom Farm

As we believe in activity based learning, on November 15th 2014, we organized a visit to J.K. Farms and a Mushroom Farm at Marh Balochan near Sangla Hill headed by Prof. Dr. M. Asif Ali Khan. Students keenly observed the mushroom cultivation farms and were demonstrated the technologies being used for commercially. Mushroom production Preparation of the compost at the site caught the interest of the participants. Learning and fun went side by side.

One Week Training Course on Tunnel Farming (16-20 March, 2015)

Growing off season vegetables or vegetable forcing is one of the unique techniques of Horticulture that ensures availability of all vegetables round the year. Considering the importance of this technique Pakistan Society of Horticultural Sciences organized "One week training course on Tunnel Farming" from March 16 – 20, 2015.

Participation of 103 candidates in the course marked triumph of the work of the organizing team. Among these participants there were students from different departments of the university as well as growers. Course was structured in a very comprehensive way covering all necessary topics regarding tunnel farming. Dr. Rashid Waseem Khan, Dr. Khurram Ziaf, Dr. Shoaib ur Rehman, Dr. Irfan Ashraf, Dr. M. Muzammil Jahangir and Dr. M. Amin were the instructors of the course.

Significance of the technology, different types of tunnels, their erection, feasibilities, media preparation, nursery raising technique, tunnel layout, direct seeding, transplanting, plant density, aftercare, cultural and management practices, factors affecting plant growth and harvesting, handling and marketing were the important aspects of the course. Schedule of the course included practical sessions as well to enable the students to gain practical knowledge. After the completion of the lectures of the workshop a test was also arranged to check the knowledge of the participants. Before Certificate Distribution Ceremony,

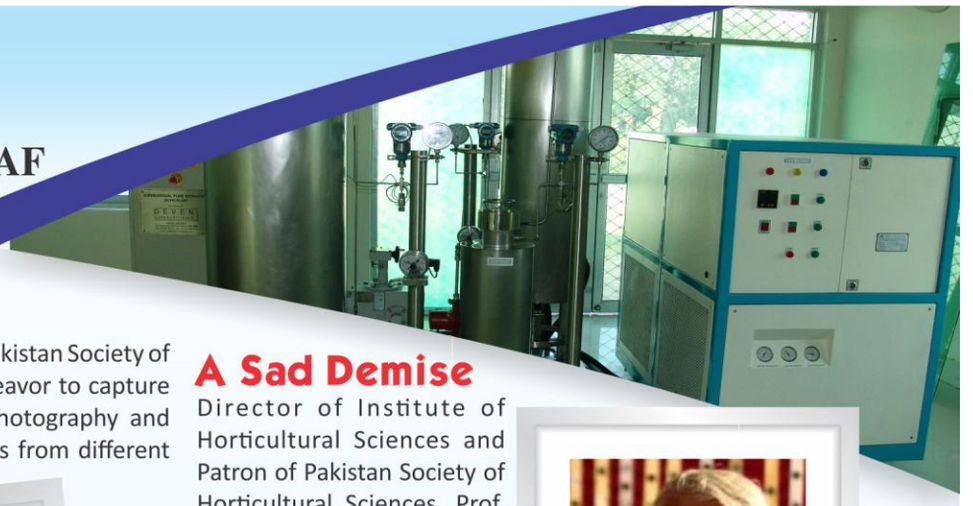
in test were admired and the high scorers of the course were awarded by certificates by the chief guest, Director Institute of Horticultural Sciences and Patron PSHS Dr. M. Amjad. At the end Dr. Iftikhar Ahmad, Coordinator of the society thanked everybody to make this course a success story.

One Day Seminar on Global GAP

May 30 2015 was pinned with seminar on Global GAP organized by PSHS. Mr. Ghulam Ishaq Khan, Horticulture Specialist from USAID and Dr. M. Amin, Research Coordinator from IHS were the invited speakers of the event. The key objective of the seminar was to create awareness among students and young faculty members about the importance of Good Agricultural Practices (GAP) in order to uplift the quality and quantity of horticultural produce to meet international standards, there by opening a window for export as well. Over 60 participants attended this course which was also evaluated at the end. At the end of certificate distribution ceremony, refreshments were served to the participants.

Sports Gala 2015

After a temporary delay due to commencement of mid term exams, PSHS organized sports gala 2015 from 2-4 June, 2015. Games in the Gala included Badminton, Table tennis, slow cycling, Athletics and Cricket, which came under lime light. Students from departments all over the university fervently participated in the games and exhibited their extra-cocurricular skills to earn appreciation as well as prizes. PSHS is well aware of the needs of providing healthy activities to the students, which should be continued along with their academic life. To keep students involved in healthy activities, PSHS has been arranging such activities at regular intervals. During first week of June 2015, society conducted a sports festival named "PSHS SPORTS FESTIVAL 2015" for the students of the university. Festival included sports such as Athletics, Badminton (single/double), Cricket, Slow Cycling and Table Tennis (single/double) in which over 200 students from different departments of the university including both male and female participated actively. This event was inaugurated by Prof. Dr. M. Jafar Jaskani accompanied with Dr. Ahmad Sattar Khan. These games were conducted under the supervision of Dr. Iftikhar Ahmad (Coordinator PSHS) along with M. Behzad Rafiq (President), M. Mahmood ur Rehman (Sports secretary), Miss Shaista Karim (female Sports secretary) and cabinet of the society particularly M. Tayyab, Abdul Salam khan, Abdul Hafi, M. Qasim Shah, Moaz Ahmad, Shahzina Shafi and Naima Razzaq who worked hard to make this event successful.



Horticulture in Autumn (12 December, 2014)

When dry autumn leaves crunch under feet, Pakistan Society of Horticultural Sciences put their extreme endeavor to capture the beauty of Autumn. In this regard a photography and painting competition was organized. Students from different schools, colleges and universities actively

participated in the compeition. Thematic photography was on the theme "Horticulture in Autumn" while On Spot Photography had Autumn Flower Show as the theme. Students clicked the best photographs of the season revealing their photography skills to an elevated level. During the contest, DCO Faisalabad Mr. Noor-ul-Amin Mengal accompanied by Vice Chancellor Prof. Dr. Iqrar Ahmad Khan visited the spot and praised the participants. Painting competition was based on the theme Colors of Autumn. Young as well as the experts painted out their masterpieces with great perfection. Paintings were judged on two levels (1) School level (2) College/ University level. Honorable judges Dr. Atif Riaz, Miss Baneen Nazir, Mr. Hannan, Mr. Bilal, Miss Kiran and Mr. Randhawa (head of home economics) fulfilled their duties by judging the exhibits. Winners of contests were awarded with shields by Vice Chancellor Professor Dr. Iqrar Ahmad Khan (S.I) and Director, Institute of Horticultural Sciences Prof. Dr. M. Aslam Pervez to appreciate the students. The proud winners lifted the trophies and cheers were in the air.

Winners of the competitions:

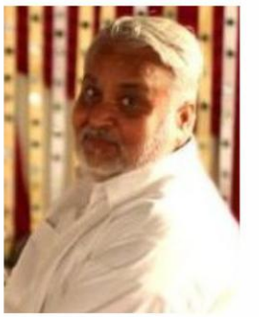
Thematic Photography: 1st Ayesha Shahid (Medical & Dental College, FSD.) 2nd Zain Farooq (IBMS) 3rd Maryam Khalid (Allied School) On Spot Photography: 1st Zain Amjad (IBMS) 2nd Usman Nadeem (Horticulture) 3rd Zain Farooq (IBMS)
Painting (School Level): 1st Maham (DPS & C), 2nd Fakeha Jamil (DPS & C), 3rd Hina Afzal (DPS & C) Painting (College level) 1st Junaid Ali (Fine Arts), 2nd Fazeela Sarwar (Fine Arts), 3rd Faisal Younis (Agri. Engr.)

CONDOLENCE

PSHS Cabinet and IHS Staff feel deeply saddened on the sad demise of elder brother of Prof. Dr. M. J. Jaskani and mother of Ms. Laraib Hameed, Joint Sec., PSHS and pray that departed souls may rest in peace (Ameen)

A Sad Demise

Director of Institute of Horticultural Sciences and Patron of Pakistan Society of Horticultural Sciences, Prof. Dr. M. Aslam Pervez, our beloved Senior Tutor, died on 8th January. May Allah Almighty bless the departed soul in eternal peace and give patience and fortitude to his family. He will always be dearly missed by both faculty and students of the institute.



Prof. Dr. Muhammad Aslam Pervez (Late) was born in 1958 to a police family. He got his elementary education from Sabria Sirajia High School, Faisalabad and graduated from University of Agriculture, Faisalabad, with specialization in the field of Horticulture. He earned his Doctorate in Horticulture from University of Wales, Bangor, UK and three Postdocs, one from UK and two from Australia.

After completion of his education, he chose Institute of Horticultural Sciences, UAF, to serve his alma-mater and the nation, joined the institute in 1983, and served in various capacities from Lecturer to Professor/Director until his departure to heaven.was well read intellectual and had a great passion for literature. To quench his thirst, he also served the University as Senior Tutor from 2009 till his death. During this era, University evolved as one of the strongest institutes within the country as well as worldwide in terms of co-curricular excellence. Best example of his efforts as senior tutor is Miss Rabia Fridi, who represented the UAF at UN as Courage Ambassador. He also worked as convener of the committee responsible for facilitation of school kids of flood affected areas during the worst floods in the history of Pakistan.

He worked tirelessly to patronage the students and supervised 22 Ph.D and 78 M. Phil students as a major supervisor and/or member of their supervisory committees. There were five research projects under his supervision funded by national and international agencies. He signed various MoUs with universities worldwide and got collaboration in vegetable sector from Australia. He organized a large number of conferences, symposiums and workshops during his directorship tenure and got published 10 books at national and international level along with over 150 research articles in journals of international repute.

Dr Pervez received two Star Awards, four Research Productivity Awards, Quaid-e-Azam Gold Medal, Ali Akbar Gold Medal and Excellence Award, UAF. By nature he was polite person and faithful Muslim. It is a great loss to Institute of Horticultural Sciences in particular and to the university and the community in general. May Allah Almighty shower His countless blessings on him (Ameen). as a token of love and affection, PSHS has awarded lifetime achievement award to Prof. Dr. M. A. Pervez for his services render to the institute.

Diversification of Commercial Floriculture through Introduction of Exotic Specialty Cut Flower Crops at Institute of Horticultural Sciences, UAF

Iftikhar Ahmad, M. Behzad Rafiq, Abdul Salam Khan, Sawal John and Munazza Hafeez

Flowers gleam and glow, let their power shine spreading happiness, peace, love and tranquility setting up a cordial atmosphere in the lap of nature. Such a bliss of nature should be conserved with affection and diligence. Putting together expertise and passion for floriculture, UAF floriculture team is putting its extreme endeavor in introduction of new specialty cut flower crops, their production and postharvest evaluation, as well as the establishment of roses, chrysanthemum and turf grass germplasm units for students and amateur learning, biodiversity resource conservation. Moreover, efforts are being done for seed production of flower crops and enhancement techniques of their uniform germination. Some of native ornamentals are also being screened for their evaluation and suitability to be used as woody cut flowers in local markets when there is shortage of regular cut flowers. Currently, flower customers have very limited options to buy cut flowers and there are several times during the year when no flower or very poor quality flowers are available in the local markets. Therefore, a project has been initiated at Institute of Horticultural Sciences, UAF, for introduction and evaluation of a few promising exotic specialty cut flower crops, which can successfully be grown in open fields and can provide better and cheaper options to the growers, stakeholders and consumers in order to fulfill their aesthetic needs. As a result of first year trials, 3 species with 2 cultivars of each have been screened for commercial production and optimization of their production and post-harvest handling techniques. Efforts are also being done to establish various ornamentals germplasm units for practical demonstration to the students and conservation of the germplasm in the country. For this purpose, during current year, undergraduate horticulture Studen -tssteered by Dr. Iftikhar Ahmad have planted 48cultivars of roses in the greenhouse at Rose Project, Institute of Horticultural Sciences. These 48 cultivars were shipped from Pattoki, which included 16 miniature roses, 16 floribunda roses and 16 hybrid tea rose cultivars. Moreover, postgraduate students working under his supervision have also established chrysanthemum and turf grass varieties available all over the country. For details on these research activities, Principal Investigator may be contacted at

iftikharahmadhashmi@gmail.com
or 041-9201086/0334-7416664.

Farewell Luncheon in the Honor of Respectable

Prof. (Retd.) Dr. M. Aslam Khan

Professor Retd. Dr. M. Aslam Khan (Sir gee), is one of the most popular personality in the history of UAF who is equally popular among all ages he is one of the pioneers of floriculture in Pakistan who served UAF for over 35 years. He has earned high regard working in various projects of landscape in the country and abroad, particularly in Saudi Arabia. In acknowledgement of services he rendered to the institute and the University, faculty of Institute of Horticultural Sciences organized a farewell luncheon as a gesture of goodwill, wishing him good luck for his future appointment as Horticulture Advisor in an Australian Company based in Lahore. Accompanied with past good memories and best wishes, faculty and students of IHS will be glad to get his worthy advices in future for the betterment of the institute. Pakistan Society of Horticultural Sciences proudly acknowledges his work and wishes him good luck for future!

PSHS is going to be a nationwide professional society in 2016
Your Suggestions / Feedback would be greatly appreciated.

Salient Research Projects going on at Institute of Horticultural Sciences

1) Multiplication and commercialization of new potential Mango accessions funded by University of California, Davis, for a duration of four years with a research budget worth US $ 37617.
2) Heat stress alleviation in summer vegetables – enhancing the use of genetic diversity in central Punjab, Pakistan funded by Australian Centre for International Agricultural Research (ACIAR).
3) Establishment of date palm germplasm unit funded by Endowment Fund Secretariat, University of Agriculture, Faisalabad with a research grant of 4.703 million Pakistani rupees.
4) Demonstration and dissemination of promising ber cultivars in marginal lands in district Faisalabad funded by Endowment Fund Secretariat by worth Rs. 0.95 million.
5) Dissemination of seed production technology of important crops Component 1: Vegetable seed production) funded by Endowment Fund Secretariat, University of Agriculture, Faisalabad, by worth Rs. 2.954 million
6) Clonal propagation of guava through soft wood cutting funded by Pakistan Agricultural Research Board.
7) Establishment of mushroom cultivation unit for demonstration and growth trials of wild and exotic mushrooms funded by Endowment Fund Secretariat, University of Agriculture, Faisalabad with 2.869 million rupees.
8) Technology transfer to citrus growers in relation to changing cultivars in existing citrus orchards through top working funded with 1.449 million rupees by Endowment Fund Secretariat, University of Agriculture, Faisalabad.
9) Demonstration of resources utilization efficiency of citrus and mango plants at PARS. This project is sponsored by Endowment Fund Secretariat by worth Rs. 2.144 million. Aims of this project are to demonstrate drip irrigation and encourage farmers to establish orchards under drip irrigation and to use water judiciously to ensure usage of nutrients needed by plants.
10) Australia-Pak ASLP Mango value Chain Improvement Project. Phase-II sponsored by Australian Aid/ Australian Centre for International Agricultural Research (ACIAR) by worth Rs. 17.62 million with the objective that Supply chain partner work together to deliver value to mango consumers in domestic & export market.
11) Demonstration of in vitro clonal propagation system in elite Guava cultivars funded by Endowment Fund Secretariat with a budget of Rs. 1.94 million.
12) Demonstration of ornamental plant production technology through flower exhibitions for transfer of technology funded by Endowment Fund Secretariat, U.A.F. Pakistan, March, 2012 – March, 2015, Pak Rs. 1.212 million.
13) Promotion of floriculture Industry through introduction and evaluation of selected specialty cut flowers. An ALP funded project worth Rs. 5.43 million.
14) Improving Farmers profitability and human nutrition through popularization of carrots Project cost: 2.573 million
15 Postharvest storage life and quality management of Litchi. HEC/ Rs. 5.894 million.

A New Face

Dr. Muhammad Azam

is appointed as Assistant Professor in the institute. He has recently completed his Ph.D. degree from China. PSHS warmly welcomes Dr. Azam in the family of IHS.

Honor for the Institute

¨**Prof. Dr. Amanullah Malik** has gone for his postdoctorate studies at University of California, Davis, CA, USA.

¨**Prof. Dr. Muhammad Qasim** made his way to Sultan Qaboos University, Oman, For a semester on faculty exchange programme.

Assumption of Charge

Prof. Dr. M. Amjad has assumed the charge of Director, Institute of Horticulture Sciences, in January, 2015.

Welcome Back

Dr. Raheel Anwar

Pakistan Society of orticultural Sciences warmly welcomes Dr. Raheel Anwar on returning from USA after completion of his Ph.D. from Purdue University, USA.

Flowers of Horticulture

Nida Mahreen
Silver Medalist in B.Sc. (Hons.) Agriculture Faculty 2014

Faran Qamar
2nd in Sci world quiz contest (FAST uni.)

Moaz Ahmad
1st position Master mind of UAF, Quiz Competition (UAF) 2014

Faisal Shahzad
Silver Medalist in B.Sc. (Hons.) 2015

M. Mahmood ur Rehman
Bronze Medal All Pakistan Intervarsity Badminton Championship 2015

Nurani Barkat Ali
Winner of foreign scholarship entitled Agriculture Innovation Program

Shaista Karim
Winner of 500 $ for Smile Project by United States of Educational Foundation Pakistan

Roshan Ahmed Khan
Winner of foreign scholarship entitled Agriculture Innovation Program

Zafar Iqbal
1st Position in Punjabi Takra in All Pakistan Trilingual Declemation Contest 2014-2015

Muhammad Behzad Rafiq
1st position in PHA landscape competition
1st position in Youth Festival flower arrangement competition

Saba Shakeel
2nd position in Declamation Contest at IST, Islamabad

Muhammad Akhtar
2nd position in sci-world of Daira-14 (FAST university)

Aruba Adil
3rd position in All Pak. Debate Competition, Punjab Medical College

Zeeshan Ubaid
Education youth embassador of Pakistan

Waleed Abdullah
1st position in all Pakistan Drama Competition BZU 2015

Attention Horticulturists!

First Announcement

Institute of Horticultural Sciences, University of Agriculture, Faisalabad, is organizing 2nd International Conference on Horticultural Sciences: Production Challenges and Food Security

Conference Dates: February 23-25, 2016
Abstract submission deadline: September 30, 2015

For more information:
Prof. Dr. M. J. Jaskani (jjaskani@uaf.edu.pk)
Dr. Iftikhar Ahmad (iahmad@uaf.edu.pk)
Dr. Raheel Anwar (raheelanwar@uaf.edu.pk)

The University of Agriculture Faisalabad Scientists have Identified New Indigenous Mango Germplam

Ahmad S. Khan, Ishtiaq A. Rajwana and Iqrar A. Khan

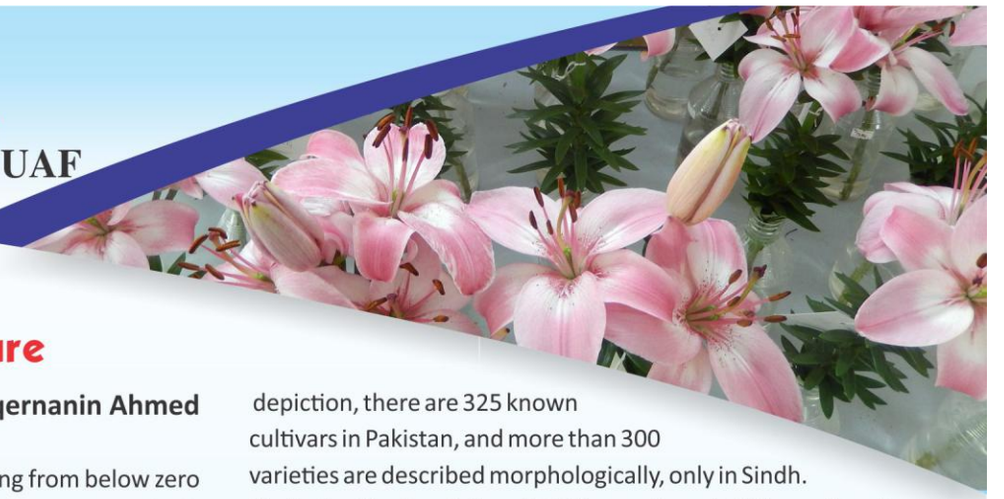
Pakistan is blessed with rich mango germplasm from ancient Himalayan Mountains of Azad Jammu and Kashmir (AJK) to the fertile plains of Punjab and Sindh. Despite the importance of mango as a second major fruit crop of the country, its growth and sustainability is threatened by several factors such as limited number of available commercial mango cultivars and disease challenges i.e. Mango Quick Wilt Disease (MQWD). Demographical and industrialized development and disease outburst during the last few decades in the mango growing areas have instigated inexorable mango genetic erosion which consequently resulted in a massive destruction to the mango industry of the Pakistan. Research work regarding mango germplasm is not up to mark and is still in the initial stages in the country. Hence, it was extremely needed that some detailed studies should be initiated about potential mango germplasm exploration all over the country, accompanied by the description and evaluation for upcoming enhancement of the potential mango breeding programs. Morphological and molecular characterization is difficult, lacks proficiency and it has never been addressed accurately in Pakistan. Therefore, keeping in view the significance of diversity in mango germplasm a project entitled "Characterization of native and potential mango varieties in relation to Ceratocystis manginecans and other economic traits" was executed with funding from Punjab Agricultural Research Board, Lahore. The main objective of the project was collection, identification, evaluation, and conservation of potential mango accessions for commercialization with special emphasis on genotypes resistant to MQWD. It was executed at IHS, UAF under the dynamic leadership of Professor Iqrar Ahmad Khan (S.I.) as Project Manager with three collaborators including i: Horticulture Department, BZU, ii: Department of Plant Pathology and iii: Centre of Agricultural Biochemistry and Biotechnology, UAF.

This project was designed to characterize and evaluate mango genetic resource, not only for its intrinsic worth, but also because of the potential presence of valuable resistant indigenous mango germplasm against MQWD and also having other economic traits as well to widen our varietal base and harvesting window for international export and indigenous markets in the near future. Molecular techniques for varietal identification at nursery stage and genetic diversity estimation of selected mango gene pool from AJK and Punjab were also exploited. This study not only explored distinguished morphological, molecular, physico-chemical and pathological traits against MQWD; but, it also provided a way forward for how upcoming/future studies should be planned that would definitely found to be suitable to produce more reliable results about breeding point of view from these explored promising indigenous mango accessions of the country. Out of over five hundred indigenous mango germplasm studied in the project, ten potential mango accessions have been identified and selected for their future commercialization based on their premium fruit quality characteristics and diversity in harvest maturity. Among the selected accessions, one exhibited earlier fruit maturity, five mid-season fruit maturity and four with late season harvest maturity. It is anticipated that investigations by morphological, molecular and physico-chemical characteristics will certainly lead to the standardization of the sound and proper basis for future advanced research work endeavors about the mango industry of Pakistan. After successful completion of this project, the commercialization phase of these selected mango accessions have been started with funding from US Government under the auspicious of "Agricultural Innovation Program" for Pakistan. In this new project, plants of these selected accessions will be multiplied and distributed among the mango growers.

FRUITS OF THE SELECTED NEW POTENTIAL MANGO GENOTYPES

Comparison of harvest season and fruit quality between new potential mango gentypes and four commercial cultivars

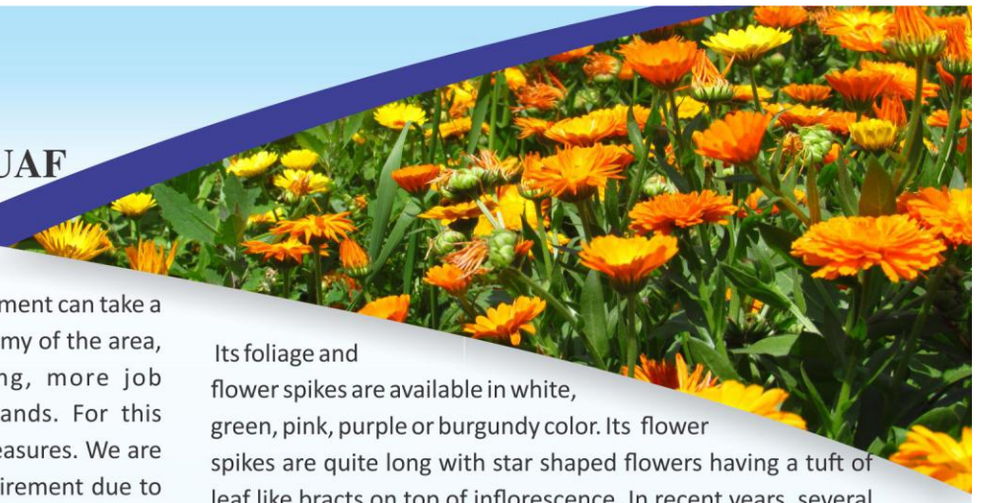
Accessions/ Commercial cultivars	Harvest season*	Av. fruit weight (g)	Av. edible contents (%)	TSS: acidity (Ratio)	Sensory score
RYK-426	Early June - Mid June	320	60	255	8
KHW-251	Mid July - 10 August	362	75	172	7
MLT-239	Mid July - 10 August	450	84	282	8
MLT-240	Mid July - 10 August	300	86	272	8
MLT-248	Mid July - 10 August	200	67	157	7
MLT-369	Mid July - 10 August	210	78	276	8
KHW-250	10 August - Onwards	473	86	272	8
RYK-265	10 August - Onwards	210	76	165	9
RYK-644	10 August - Onwards	314	68	343	9
MLT-658	10 August - Onwards	380	84	288	9
Malda	Mid June - Early July	190	60	130	6
Anwar Ratole	Early July - Late July	170	72	160	9
S.B. Chaunsa	Mid July - Early August	300	73	130	9
Sufaid Chaunsa	Late August - Onwards	425	76	110	8



Dates in Pakistan — Neglected Fruit but Promising Future

Summar A. Naqvi, Iqrar A. Khan, Zulqernanin Ahmed and M. Jafar Jaskani

Pakistan is a very diverse range of land starting from below zero to eight thousand meter above the sea level at mountain (K2). The total geographical area of Pakistan about 80.0 million hectares or 197.0 million acres enjoy four seasons. Such type of diverse land and climate make Pakistan a basket of different types of fruits. Fruit list expands from major/appreciated fruits such as mango, citrus guava, and date palm to un-served fruit jaman, ber, peelo, falsa, cherry etc. Among all the fruits produced in Pakistan, citrus and mango are leading regarding area and production but date palm is the only fruit crop in the country that provides more income on a per capita basis than mangoes and citrus, the next most important fruit crop in Pakistan. Medically, every weakness or disease of eyes can be cured inevitably without any medication by the use of dates fruit and if it is consumed along with "Lassi" generates new blood in the body, strengthens mind, reinforces lever, expels mucus, terminates acidity of stomach, permanently eliminates constipation, fortifies bones, increases red blood cells, kills worms of abdomen and cleans urine. It is very advantageous for heart patients. Many authors reported the importance of date fruit during pregnancy. Since date fruit is full of energy and nutrients, it is recommended for pregnant women to help with cervical ripening, particularly in the last weeks of gestation (Kordi et al., 2014). There is also anecdotal evidence to suggest that date fruit can contribute significantly to a healthy pregnancy preventing anemia, reducing nausea, controlling blood pressure, regulating restore blood sugar levels, helping depleted calcium, expelling toxins, and increasing strength and immune resistance (Al-Kuran et al., 2011). It is best and complete diet for human. It contains 15 types of minerals, 14 types of fatty acid, 23 types of amino acids, 6 vitamins, dietary fibre and many more (Al-Shahib and Marshal, 2003). The quantity of sugar is found to be 72.2 % and is free from cholesterol. In one pound dates 1275 calories are existent. Fortunately, date palm is widely distributed throughout Pakistan. Mostly, it is in agro-forestry form with few small scale organized orchards. The major locations of the date palm industry in Pakistan are the Oases of Balochistan (Turbat, Panjgur, Kharan, Washuk, Mashkail, Ornach and Mashkay); irrigated plains and desert like of Sindh (Khairpur); Oases of Khyber Pkhtunkhwa (Dera Ismail Khan, Bannu, Miran Shah) and the irrigated plains of Punjab (Dera Ghazi Khan, Muzafargarh, Bahawalpur, Rahim Yar Khan, Jhang). Based on botanical depiction, there are 325 known cultivars in Pakistan, and more than 300 varieties are described morphologically, only in Sindh. Similarly, Hugiies-Buller (1906) mentioned 109 quality-wise different cultivars from Makran range of Balochistan. Whereas, in Punjab agro-biodiversity system, date palm is found as agro-forestry containing more than 100 different varieties i.e., Ali puri chohara, Sher Shahi, Hawwa wali, Ood kafir etc along with few exotic cultivars (Hillawi, Khudrawi, Zehdi, Sayer) which were introduced from Iraq into the Punjab province by the British Indian Government during early 1909. However, Ajwa from Saudi Arabia is being planted in Muzafargarh district of Punjab now a day. This great diversity helps Pakistan to maintain its rank as the fifth largest producer after Egypt, Saudi Arabia, Iran, Algeria and Iraq. Date production is 7.6 million tons worldwide (FAO, 2013), and Pakistan contributes 10.3% of the total. Dhakki, Aseel and Begum Jungi are the primary cultivars along with Hillawi, Rabai, Mozawati, Sabzo, Shakri, Haleni, Oshkench, Washkonk, Abe Dandan, Koherba, Jan-sohar, Zehdi, Khudrawi, Ali puri chohara, Sher Shahi, Hussaini, Dhandari and Gulistan. Almost one hundred years ago, considering the government survey and revenue record "De Millen" wrote 14,80,000 female bearing trees in only four districts of Punjab (Multan, Dera Ghazi Khan, Muzafargarh and Jhang), which government used to get a revenue of almost 80,000 rupees annually. Keeping in mind the past figures, it can be possible to collect 10 fold more revenue now. So this thing can be clearly estimated that these areas are much vital for production of dates. Numbers of plants are decreasing day by day due to negligence and insufficient government activities. People are removing old varieties of dates due to less production and low return and its area under cultivation is declining day by day. Therefore government should take steps to increase the area of dates under cultivation. According to FAO (2013) cultivated area of dates is 90,700 hectares from which 5, 56,608 tones production is obtained. Despite of this a lot of area is free for date cultivation. According to Dr. S.M. Aslam, the salt affected soils are mainly situated in this plain. In Pakistan, about 6.30 million hectares of land are salt-affected and of which 1.89, 1.85, 1.02 and 0.028 are saline, permeable saline-sodic and impermeable saline-sodic and sodic respectivelyre. It is estimated that out of 1.89 million hectares saline patches, 0.45 million hectares present in Punjab, 0.94 million hectares in Sindh., in Punjab, area is partially under cultivation but the most of area is speculated and unpopulated. As you know that dates



tree can easily grow in salt affected and water logged soil. This area can be utilized for date palm cultivation; government can take a lot of benefits including improvement in economy of the area, earning more revenue, capacity building, more job opportunities, and utilization of marginal lands. For this government of Punjab should take possible measures. We are not able to meet our country based date requirement due to which we have to import the dates from abroad for our religious as well as ritual activities. If government provides facilities to farmers to increase cultivated area of dates then a lot of benefits can be taken. For example, if suckers of Dhakki variety will be provided to Dera Ghazi Khan then it will be very worthwhile. The Chohara of this variety is much appreciated and famer can earn a lot of return. Dates can also be cultivated in desert and semi desert areas of Bhawalpur (Cholistan) and Rahim yar khan (Roohi) by drip irrigation and around the banks of canals. It can also be beneficial to embed dwarf varieties along road side. Therefore, it is a request to Punjab government that farmers individually cannot increase area and production of dates thus government should take possible measures like establishment of dedicated date palm research institute in UAF, collecting and introducing new and diverse range of varieties, establishment of date palm nurseries, subsidies to the farmers, capacity building campaigns in production, processing and drying of dates. This will be milestone in boosting date palm industry of Punjab.

Pineapple Lily — A New Bulbous Cut Flower

Iftikhar Ahmad, M. Abdul Salam Khan and John M. Dole

Pineapple lily *(Eucomis comosa)* is a new ornamental crop, which is gaining popularity in various global flower markets. It is quite easy to grow and has potential to be used as cut flower, border plant or potted plant. It is a bulbous perennial, which can be propagated through division of bulbs/offsets. It can also be propagated through leaf cuttings or seed, but it may take several years to start flowering.

Its foliage and flower spikes are available in white, green, pink, purple or burgundy color. Its flower spikes are quite long with star shaped flowers having a tuft of leaf like bracts on top of inflorescence. In recent years, several varieties have been bred, which are being used for cut flower production. Some of the Eucomis varieties have very attractive foliage, which are also used as cut foliage/ filler such as 'Sparkling Burgundy'. Eucomis can be grown in open fields or in standard lily crates by planting upto 12 bulbs per crate. In field, bulbs should be planted in Spring (March-April) at a spacing of 12" apart in 2-3 feet spaced rows/ridges. Bulbs should be planted in well prepared soil at a depth of 1-2" from top of the bulb. Bulbs can be divided after every 2-3 years and offsets can be replanted after separation. Eucomis is quite potential crop for Pakistani markets as it can be grown in open field and it flowers during summer when there are very limited flowers available in the market. Moreover, it is a hardy bulbous crop, so there is no need to dig the bulbs every year and store them in cold stores. Usually, there is one flower spike per bulb, however, more flowers can also be produced by using large size bulbs. For Eucomis, irrigation is quite critical like other bulbous crops and over-irrigation may cause rottening of bulbs. Always use well drained soil to plant them and irrigate only when surface of soil gets dry. Like other bulbous crops, no initial fertilization is required at planting, while light For getting more vibrant colors of flowers, these should be grown in full sun. 'Sparkling Burgundy' will have burgundy foliage in full sun, which may be light green in partial sun or shady areas. Moreover, flowers will be of better quality when grown in full sun. If bulbs are planted in March-April in the field, it will flower in May-June. It cannot tolerate frost and all aboveground portions are killed at low temperature. There are no serious pests or diseases of Eucomis, but care must be taken to avoid caterpillar or fungus attack. Stems can be easily harvested just by twisting and should be harvested when a quarter of the florets have opened. If stems are fully hydrated, stems can be easily detached from the plant. Different cultivars have different stem length ranging from 1-3 feet, therefore, taller varieties would need netting/staking to avoid their lodging/stem breakage. There are no preservatives required for their postharvest handling and stems perform best in water where they can last over a month. Use of preservatives reduces the vase life. Harvest stems in the morning, hydrate them in buckets containing water in a cool place, and keep them upright if needed to store. Do not store longer than a week and avoid low temperature storage, which may cause necrosis due

to chilling injury. They are not ethylene sensitive and can be easily shipped to distant markets. When flowers start wilting, they become greener and seed pods form, which also look quite attractive. All these characteristics make pineapple lily a potential flower crop for Pakistani growers. Therefore, its planting material has been imported by the author for the first time in Pakistan and now it is growing successfully at Institute of Horticultural Sciences, University of Agriculture, Faisalabad. After exploring its potential to be grown under local agro-climatic conditions and developing production and postharvest handling protocols, its plant material and production technology packet will be distributed among growers for commercial production in the country for diversification of cut flower industry. So, stay tuned for more updates about this potential future cut flower crop of Pakistan!!

Potential of In Vitro Clonal Plant Multiplication in Guava

M. Usman, M. Rizwan and B. Fatima

Guava (*Psidium guajava* L.), an important fruit crop member of the family Myrtaceae which is commercially grown under tropical and sub-tropical environments across the world. Owing to its farmer friendly cultivation economics, higher nutraceutical properties, and prolonged harvesting period it is termed as "Poor man's Apple". Further, guava offers higher vitamin C content per gram fruit compared with Citrus. Guava is third most important fruit crop in Punjab, Pakistan according to its area and production statistics, however, during last five years area has sharply increased while production is still declining due to higher incidence of Guava wilt and decline (Usman *et al.*, 2014a). Since decades, guava cultivars in Punjab are being propagated and maintained through seed. Propagation by seeds enhances genetic heterogeneity owing to the chances of cross pollination and leading to more potential for selection of better material. This practice enabled guava growers in Sherkpur-guava hub to make better selections like Sadabahar Gola and Surahi cultivars, however, these selections are still being multiplied through seed due to non-availability of other commercially acceptable propagation methods. Sadabahar cultivars are bearing almost round the year and no fruit crop other than guava offers such uniform production and large harvesting span. Well maintained and decline free guava orchards are highly profitable as well. This makes guava an attractive fruit crop for the growers interested in establishing new orchards. Owing to seedling based guava industry and low plantation density in the orchards, in Pakistan guava orchards are producing merely 8 tons/ha which is three times lower to Brazil. Seedling based industry may further lead to clonal degradation of varieties yielding poor quality fruit.

Micropropagation is a tool of plant tissue culture, which enables mass multiplication of the desired plants under aseptic conditions starting from a little fresh plant material. Micropropagation is very useful for horticulturists and for breeders as they can multiply precious genetic resources, sterile hybrids, polyploids, mutants and conserve those using cryopreservation. It further offers efficient plant multiplication,

higher success rate, sanitated plant material production and better plant growth in field due to their production under aseptic environment. Conventional breeding strategies to improve woody species like guava are handicapped with long juvenile growth, self incompatibility and heterozygous nature. Efficient tissue culture system could be further useful for establishing genetic transformation system in indigenous guava cultivars. Establishment of plant tissue culture in guava has been limited due to higher incidence of microbial contamination and exudation of phenolic compounds. Browning of explants due to phenolic exudation is a serious issue in establishing cultures in tree species, including guava and mango. However, the authors have established efficient micropropagation from in vitro raised seedlings in indigenous cultivars (Usman *et al.*, 2012; 2014b). Currently we are collecting elite guava strains from different guava growing regions, characterizing these for morphological and fruit quality traits and establishing a model for in vitro propagation of guava for demonstration and technology transfer under an USDA Endowment Fund, UAF sponsored project. The system will be useful for clonal plant multiplication of the elite plant material, its establishment for different stakeholder in guava industry

and for further research studies.

It will also open new avenues for the private sector to invest in developing commercial plant tissue culture labs not only for guava but also for other economically important crops. Conclusively, future of Guava industry and other clonally propagated fruit crops lies in tissue culture grown sanitized and true to type plant material for the nurserymen, growers and other stakeholders.

Indigenous Vegetable Seed Production: Need of the Time

Khurram Ziaf, M. Amjad and Anam Noor

Good quality seed is prerequisite to achieve good yield of a crop and contributes almost 5-20% in the final yield of a crop. The sustained supply of quality seeds has been identified a key factor for augmenting agricultural growth but, is a big issue in Pakistan, particularly the availability of vegetable seeds. Estimated requirement of vegetable seed in Pakistan is more than 5500 metric tones, of which only 36% is fulfilled by local seed (produced by national companies and farmers). While, rest (64 %) of the required vegetable seed is imported from different countries including USA, China, Netherland, Korea and India. The cost of imported seed is very high (Rs. 1085 million) and is increasing every year. This import is a burden on national economy besides introducing new diseases in vegetable crops. There are two basic reasons of using imported seed, high quality and yield potential of the imported seed and low quality as well as yield potential of local varieties. The incidence of low quality of the locally produced seeds is due to multiple factors; lack of technical knowledge of different seed production practices in one the major cause. To address this important national issue, project "Dissemination of Seed Production Technology of Important Crops (Component I: Vegetable Seed Production)"was approved and funded by Endowment Funds secretariat, UAF, with objectives to disseminate the seed production technology of important vegetables to interested farmers as well as training of manpower (Graduates) so as to ensure the availability of locally produced high quality vegetable seed at cheaper rates.

To achieve objectives, different aspects of vegetable seed production viz., preparation and plantation of stecklings of root crops, maintenance of isolation distance, plantation of shelter/catch crops to prevent pollen contamination, discard strip technique, rouging methods and stages of rouging, impact of flower/inflorescence position on seed quality and appropriate crop maturity, were elaborated to various groups of farmers from different areas. Farmers were briefed about germination test, harvesting, curing and storage of seed. Farmers were also communicated about various diseases and insect-pests of vegetable seed crops. Early onion production technology was also demonstrated to farmers. A group of females from rural areas of Tehsil Kamalia was trained in sowing of seed for onion set nursery and briefed about the complete production technology of onion set crop. A group of visitors from Balochistan was also given demonstration about seed production technology of vegetable crops. Seed production technology of carrot, okra, and pea has been published in Urdu and literature has been distributed among farmers. Moreover, vegetable seed crops (carrot, radish, pea and okra) were grown on sub-campus Depalpur. Farmer's participatory workshops were held at main campus of UAF and at sub-campus Depalpur in which the above mentioned technology of seed production was demonstrated to farmers. Further, researcher of a private seed company from Arifwala also visited UAF to seek seed production technology of root vegetable crops. He was provided the necessary information and the related literature.

Seed of radish, carrot, turnip, peas, and onion was produced, sold to farmers and income was deposited in the account of Endowment Funds Secretariat, University of Agriculture, Faisalabad. Seed packets of vegetables were distributed among farmers of two flood affected areas namely, 18-Hazari and Bhawana. Seed packets of okra were also distributed among farmers in Kisan Mela (Jashan-e- Baharan) held at University of Agriculture, Faisalabad.

Woody Cut Flowers for Pakistani Markets

M. Behzad Rafiq, Iftikhar Ahmad and Sawal John

Ornamental plant branches/stems used as cut stems for floral arrangements or decorative purposes are known as woody cuts. Different plant parts including foliage, flowering branches, fruit and bare seeds, as well as pods and stems have a wide use in creative floral design. Various trees, shrubs and woody vines can be grown commercially for this purpose. Cut flower growers add woody plants in their production lines to diversify their products, expand their markets, and extend the floral season. They have the strong potential for sale in local and international markets and have a long term production with limited input requirements.

In Pakistan, this segment of floriculture is not explored yet. Most of the growers have small farming households with limited resources. Yet they follow the traditional cropping patterns that have higher production cost and low yields. Cut flower growers used to grow only traditional floricultural crops like rose, gladiolus and marigold, but it is need of the time to introduce new ornamentals for higher returns and diversification. As Pakistan is blessed with diverse and favorable conditions for flower production, woody ornamentals can be the best option for cut flower growers to extend the flower availability for diversification of their business and filling out bouquets. However, growers need to be trained about different production and harvest requirements of this diverse group of plant material and market assessment and analysis for demand and pricing before stating production.

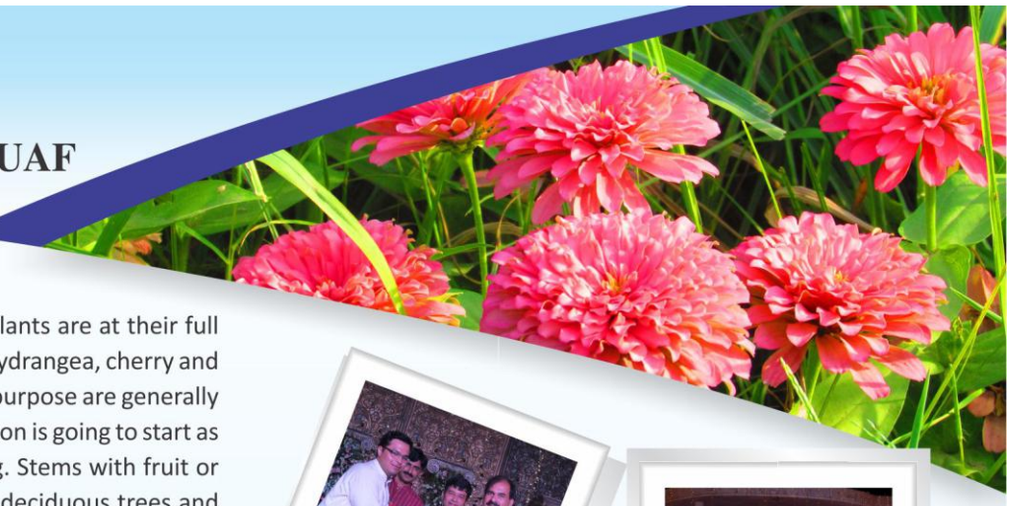
Many woodies will need to grow for two or more years before marketable branches can be harvested. However once they would be established, they would need minimal care. In addition to their other advantages, woody ornamentals normally have few pest problems and can be grown on marginal lands. They can also serve as attractive landscape plants and habitat for beneficial insects and birds. In orchards, they can also be grown as windbreaks for additional benefits.

There is little information available about the best cultivars, preharvest conditions, postharvest treatments, pricing, and market potential for different woody species, but some general rules and production techniques are similar to other species. Growers should grow a wide range of deciduous and evergreen species for diversification and continuous year round production. Different climatic conditions and production systems are involved while selecting woody specie. Always look for species or cultivar which are well acclimatized in your climate and regrow rapidly after harvesting. It should produce more flowering stems with at least 18 to 20 inches long and should have a long vase life as most of the florists like the stems with good length and life.

Always choose a site that is best suited to your plants before cultivation. It is selected on the bases of soil type, availability of sunlight and irrigation water. Mostly sandy loam soil is recommended with good organic matter by adding different organic manures in it. Most woody plants love to grow in bright sun and they need to be planted in a location where the exposure of sunlight is maximum. Some woody plants, for example, Hydrangea, like to grow in partial shade. Certain berries and willow need to grow in wetlands for their best performance. Apricot, pear and cherries will grow well in well drained sites. Fertility and pH of soil also matter while establishing woody cut flower in beds. Soil samples should be tested from the soil testing labs. Soil pH need to be adjusted at 6.0–6.5 with optimum level of phosphorus and potassium before the plants are installed. Do not over fertilize the soil during soil preparation since high fertility often favors vegetative growth. Similarly, good quality irrigation water source is necessary for good plant health during production.

Soil amendments and field spacing will depend upon the crop requirement and size of tools used for tilling, mowing and harvesting. A tight spacing of plants within the row can help to produce longer, straighter stems in some species. Weed management is always a big problem for growers. This problem can be overcome by covering the planting bed with organic mulches such as wooden chips, wheat/rice straws or some landscape fibers. Disease and insect problems are varied from host to host. Common pests like flies, aphids, termites and spiders can be overcome by recommended sprays of insecticides. In the production lines of woody cuts, pruning is most important part. It is practiced to encourage the growth of long flowering stems. Pinching or removing of dominant apical or tip bud is done to encourage more number of side shoots and stems. Deciduous and large plants are cut to the ground during dormancy to get a flesh of long stems. Some plants also require a pollinator for flowering.

Like other cut flowers, woody plants also need some special techniques during harvesting. As discussed earlier, woody plants produce marketable production after 2 to 3 years. The proper stage of harvest will be subject to a number of factors including market needs and distance, cultivar and desired stage of plant. They should have stem length from 18 to 20 inches but some markets require more length. Different types of woody plants have different stages of harvesting. Some flowering plants are harvested at close bud stages or when buds show color like forsythia, quince and fruit blossoms, similarly lilac, rhododendron, kaner and hibiscus are among those that should



be cut when they start to open. Mostly plants are at their full bloom stage when harvested like acacia, hydrangea, cherry and pear. Bare branches used for ornamental purpose are generally cut when they are dormant or bud formation is going to start as they can be stored for month after drying. Stems with fruit or barriers are cut after fruit ripens. Mostly deciduous trees and shrubs are forced to produce flowers before or after their blooming season in late winter. For forcing, branches are pruned when they are in dormant conditions and artificially forced by some forcing techniques to get the flowers at the event. Pussy willow, flowering quince and forsythia are among the most common woody plants, which are cut for forcing. In all cases, once harvested, cut stems should be placed in a bucket of water containing preservatives and placed in a cooled area until sold. Floral preservative and refrigeration are essential to keeping flowers fresh, as well as extending their vase life. There is no woody cut crops production in Pakistan on commercial basis. Growers should plant small trial areas to test the local market and evaluate the economics of production of these woody plants as these are highly profitable enterprise, which not only has high demand in local markets but also has potential for export.

Floral Feast 2015

While printing of the newsletter, 9th of June was tagged with Annual Dinner (Floral Feast 2015). All the faculty members and the students of the institute jubilantly participated in the event. The event was dominated by video dedication to Prof. Dr. Aslam Pervez (late) former director of the institute. PSHS presented lifetime achievement award to him which was received by his younger brother. Dance performances, funny skits and mime by Fraz Davis came under lime light. Adding up music to the night, Sawal John played wonderful guitar and Asad liaqat and Qais sung songs cheering up the audience and especially the recipients of Certificates and Shields, which included Cabinet members along with students with markable curricular, co-curricular or extracurricular achievements. Senior Cabinet members who served the society for over three years were awarded with institute Colour Awards. Proud awardees were M. Behzad Rafiq, M. Abdul Salam Khan and M. Mehmood-ur-Rehman. Floral Feast which ended with plenty of abundant delicious food, earned great appreciation from everyone.



Outreach Activities, Glimpses by PSHS/IHS

HortiMag UAF
2014-2015

Cheers for Research Productivity Awardees

Pakistan Council for Science and Technology Government of Pakistan) awards Research productivity awards every year to the Scientists serving in Research and Development institutes in the country. This prestigious award is conferred on the basis of research achievements of the previous year. This year Pakistan council for Science and Technology has awarded this award to 325 scientists from all over the country. Among these, 32 recipients of this award are faculty members of University of Agriculture, Faisalabad including four faculty members of Institute of Horticultural Sciences, Prof. Dr. Iqrar Ahmad Khan (Vice Chancellor), Prof. Dr. Aman Ullah Malik, Prof. Dr. M. Jafar Jaskani and Dr. Iftikhar Ahmad (Asstt. Prof.). Pakistan Society of Horticultural Sciences proudly congratulates the worthwhile awardees and express ovation wrapped in motivation for serving the institution and community with the same enthusiasm!

Outreach Activities/ Advisory services offered by the Institute of Horticultural Sciences

Plant Material:

- Fruit Plants: Citrus, Mango, Guava, Ber and Falsa
- Vegetable seeds: Fenugreek, Spinach, Turnip, Radish, Carrot, Okra, Bittergourd and Sponge gourd
- Rose cuttings and Selected Flower Seeds
- Mushroom Spawn
- Ornamental Plants & Cut Flowers

Consultancies/ Services

- Orchard Establishment
- Nursery Establishment
- Essential oil extraction of rose
- Extension articles/brochures
- Talks on electronic media
- Commercial Flower production
- Landscape designing and establishment

Outreach / Trainings offered by PSHS

- Nursery Management
- Tunnel Technology Course
- Kitchen Gardening and Floriculture Course (Females)
- Mushroom Cultivation
- Diploma in Landscape design
- Advanced Landscape Designing
- Cultivation of Fruits and Vegetables
- Maali Course
- Advanced Maali Course (For Military People)
- Medicinal Plants workshop
- GAP awareness workshop
- Bonsai and floral art workshop

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