

## BIODATA

1.	Name if full	:	<b>Dr LALLAN PRASAD YADAVA</b>
2.	Date & Place (with State) of Birth	:	01.01.1964 (Uttar Pradesh)
3.	Nationality	:	Indian
4.	Field of Specialization	:	Horticulture
5.	Present Position/Designation :	:	Assistant Professor
6.	Address	:	Mobile No: 8299714817 Email: <a href="mailto:drlpy.spa@gmail.com">drlpy.spa@gmail.com</a> 9/625, Indiranagar, Lucknow-226016
7.	Academic Qualification	:	D. Phil. (Horticulture)
8.	Title of Thesis	:	“Floral Biology, Fruit Set and Fruit Quality of Cape gooseberry ( <i>Physalis peruviana</i> L.) as influenced by Growth Regulators”.
9.	Awards and honours	:	Fellow of Hind Agri-Horti Society Best Paper Award 2007 Best Paper Award 2008 Best Paper Award 2009 Best Paper Award 2013
10.	<b>Experience</b>		
	• 2013 - Present	:	Assistant Professor, Department of Horticulture, CBG Ag PG College, Lucknow

- 2007-2013 As a **Research Associate** in senior scale in DBT project entitled “Development of genetic resource database and information system for mango” working at CISH, Lucknow, UP.
- 2005-2007 Worked as **Field Coordinator** UNEP/GEF Project “Conservation and Sustainable Use of Cultivated and Wild Tropical Fruit Diversity: Promoting Sustainable Livelihoods, Food Security and Ecosystem Services” at CISH, Lucknow, UP.
- 2000-2005 Worked as **Research Associate** in senior scale in NATP project entitled “**NATP on Sustainable Management of Plant Biodiversity**” at CISH, Lucknow.
- 1997-2000 Worked as a **Project Coordinator** in Rural Development Project
- 1995-1997 Worked as **SRF** in ICAR, New Delhi sponsored project entitled “**Survey, Selection and Collection of Improved Clones of Guava (*Psidium guajava* L.) of Allahabad District**”.

- 1990-1994      D. Phil
  
- 1988-1990      Worked as Field Investigator

### **Technical Qualification**

- Characterization, regeneration and post-harvest handling of genetic resources of horticultural crops/plants. NBPGR, New Delhi.
- Training in the improved production and processing technology of economically viable medicinal and aromatic plants. CIMAP, Lucknow.
- Certificate course in fruit preservation. Govt. of UP
- Certificate course in Computer programming and Management.
- Certificate course in Mushroom Production. KVK, Allahabad
- Training in Project Formulation and Implementation. CAPART

### **Technical Expertise**

- Using web conferencing tool to teach online classes in M.Sc (Ag) Hort and B.Sc (Ag)
- To evaluate micro climatic condition required for profitable cultivation of fruit and vegetable crops.
- Expertise in planning lay out for research work and conduct trial in the field of Horticulture.
- Plant propagation techniques in green and polyhouse.
- To explore suitable package and practices for commercial cultivation of Mango, guava, Papaya, strawberry and vegetables viz. tomato, brinjal, cucurbits, bottle gourd, potato, chili and capsicum.
- Provide inputs for improving package and practices in respect of higher cost: benefit ratio.
- Determined the techniques for growing assured quality of fruit, vegetable and medicinal crops. Preharvest (use of growth regulators, nutrients, bagging etc.) and postharvest (harvesting techniques, desapping and improving longer shelf life of fruits) management in fruit crops. Developed a good level of expertise in assessing the physico-chemical and overall quality of fruit crops especially in mango and guava.
- Good knowledge about judging the appealing characters of the fruit and vegetables and their product along with consumer acceptability.
- Expertise in crop regulation especially in guava and mango.
- Studied malpractices in marketing of the fruits and measures to overcome.
- Development of organic farming to combat the deteriorating soil condition and improving the fruit yield and quality and monitoring of organic produce.
- Expertise in Conservation of Plant Genetic Material and maintenance of Field Gene Bank of fruit crops.
- Expertise in basic techniques used in Agro-Hort- Chemist lab and germplasm nursery management.
- Proficiency in handling and working in Canopy analyzer, pH meter, Leaf Area meter, Spectrometer and etc.
- Expertise in improving water, fertilizer and manure use efficiency.
- Expertise in rejuvenation of old and senile orchard of fruits.
- Professional skill in PCs (M S word, Power Point, M S excel) operating and digital image analyzing systems.
- Proficiency in application of software (Opera, ImageJ and Mozilla Firefox).

- Conducted Front Line Demonstrations in Kinnow Mandarin at Dadari, Dabhawn, Allahabad in 0.5 ha with improved package of practices of its cultivation for higher yield of quality fruits.
- Expertise in breeding of fruit crops to develop a variety with desired characters specially for export.
- Expertise in data interpretation of the investigations. Dissertation works have been performed of over 60 M. Sc (Ag) Hort. of Lucknow Univeristy, 12 from University of Allahabad, AAI, Allahabad, Bundel Khand University and BBAU, Lucknow. Assistance in Dissertation works of 7 Ph. D students from University of Allahabad, CSJM University Kanpur, Lucknow University, Bundel Khand University, Integral University and NDUAT Faizabad.

### **Executive Summary of work**

#### **Lecturer (2013-To date)**

Courses of B Sc Ag Horticulture and M Sc Ag Horticulture have been taught and practical classes are also supervised. Delivered lectures to BSc (Ag.) and MSc (Ag.) Horticulture students on subject fields. Provided instructional assistance and monitored students progress. Provided support in Research activities and documented findings. Served on academic and administrative committee as assigned. Contributed to the efficient management and administration of the department. In order innovation, Chia (*Slavia hispanica*) world's most recongnizable food was planted for research work for the students of MSc (Ag) Horticulture.

#### **Research Associate (2007- 2013)**

Working presently in the project entitled “development of Genetic resource database and information system for mango”, a Mango Resources Information System has been developed By CISH which includes the information of 530 mango varieties, information systems on various aspects like genetic resource information, molecular data, protein, nucleotides, chemical constituents *etc.*, are vital from breeding and Intellectual Property Rights (IPR) point of view. Besides these, it also holds information about morphological data of different mango varieties at different field gene banks. Mango Resources Information System was developed for management of phenotypic, genetic, molecular, chemical and other available information on indigenous and exotic mango cultivars. The information system is enriched with 682 accessions with the details of fruit, leaf and other characteristics. It has a collection of 26 expressed sequence tag (EST) and 285 nucleotide sequences present in mango varieties which contains complete and partial genomic sequences having the molecular type, generally genomic DNAs, m-RNAs and unassigned DNAs. The protein information section is enriched with a collection of proteins present in different cultivars of mango. A user friendly web interface is designed to search the proteins, ESTs, nucleotides, chemicals, field gene bank holdings and cultivars. A description of various chemical components of different *Mangifera* species and cultivars are included in this information system. Besides all these, published information and links, including research papers, reports, proceedings, journals, authors *etc.* from 1972 to 2008 are present in its references section.

#### **Field Coordinator (2005-2007)**

Sites Uttaranchal –Chaukutia-Dwarahat valley area for *C. pseudolimon*, *C. sinensis*, *M. indica*, Chattisgarh – Ambikapur area for *Mangifera indica* and *Citrus spp*, Malihabad – Rahimabad belt and Amroha-Kithora area for *Mangifera indica* were surveyed and species and demographic related information is collected.

### **Research Associate (2000-2005)**

This project was carried out to locate and collect the native mango varieties and characterize the existing germplasm for its utilization. Besides, it also aimed at developing *ex situ* and *in situ* conservation techniques including field genebank establishment and as well as documenting information and creating databases.

A total of 320 mango accessions were collected from different sources, while 173 survived in the field. Of which 114 have been planted in the World's Largest Field Genebank of Mango at CISH, Lucknow. *Mangifera indica* genetic resources widely distributed throughout the Indian sub-continent and polyembryonic types growing in the wild in Western Ghats and North-Eastern Regions were collected. Based on the studies carried out earlier, ecogeographic studies were conducted to locate the diversity, and collections were made from the diversity rich regions of the states of Karnataka, Kerala, Gujarat Maharashtra, Goa, Andhra Pradesh, Bihar, West Bengal, Orissa, Uttaranchal, Imphal (Manipur) and Uttar Pradesh. **A total of pre-NATP 288 mango accessions have been characterized.** A catalogues of mango containing 252 accessions has been prepared. The germplasm collected, consisting of indigenous types has also been shared with different mango research organizations of the country.

In case of guava, 89 accessions were collected from U.P.- Raebareli, Fatehpur, Allahabad, Mirzapur, Kaushambhi, Kanpur, Kannauj, Unnao, Farukhabad, Budaun, Rampur, Muradabad, Bulandshahar, Bareilly, Pilibhit, Shajahanpur, Aligarh, Firozabad districts and Gujarat while 74 survived in the field. Of which 25 have been planted in the field genebank at CISH, Lucknow. **A total of pre-NATP 68 guava accessions have been characterized.**

Participated in biodiversity fair on mango at regional and country levels for the display of diversity and creating awareness among the orchardists. The main aim was to collect information on the mango landraces/varieties, indigenous to different regions and to train the orchardists, so that the useful variability existing there could be preserved by vegetative propagation. The diversity was displayed in the following mango exhibitions

1. July 2000 at Baradari, Lucknow.
2. All India Mango Exhibition- 2003 at Kolkata.
3. Mango Festival at Talkatora Stadium, New Delhi in 2003 and 2004
4. Mango Show 2003 at Saharanpur, UP
5. Mango and Guava Diversity Show on 'World Food Day' 16<sup>th</sup> Oct. 2004 at GBPUAT, Pantnagar, Udham Singh Nagar, Uttaranchal.

The germplasm collection was evaluated for different fruit parameters. The accessions were then isolated for desirable traits. Although, mango is highly heterozygous and cross-pollinated crop, this will serve to the people engaged in the breeding programme. A catalogue on 252 accessions has been published using 54 descriptors at CISH, Lucknow. E-catalogue of 252 accessions has been developed. The information on existing and new accessions was compiled and converted into database in Foxbase. Information on characterization was compiled for 288 accessions.

From Sirsi, Karnataka a mango accession of wild type called as 'Appimedi,' known for its tasty pickle, was collected. During the visit in Sonti, Baghat we have come across a mango chance seedling with large fruit size, taste like Langra and flavour like Chausa which

(MRYS-15) may be a promising type mango seedling. A guava accession has pink flesh and skin both (PFS Sel-1) was collected and established.

Studies were carried out in Maharashtra, Orissa and Western UP for collecting traditional varieties and superior seedling germplasm of mango, in the coastal region of Karnataka for polyembryonic types.

GIS tools like DIVA and Flora map were used for prediction, probability for the distribution of ecotypes, their mapping and diversity analysis. Diversity analysis was performed for 252 mango accessions and grid analysis of diversity rich area was presented on the maps.

The project had a profound impact on the enrichment of the field genebank of mango and guava. The indigenous varieties, which otherwise would have been lost, have been collected, evaluated and conserved in the field genebank. National Active Germplasm Site (NAGS) of mango and guava were maintained at CISH and enriched with the collected germplasm. The NAGS has 702 accessions of mango and 90 accessions of guava. The collected germplasm will help in supporting continued crop improvement programme at the various Institutes.

At present, field genebank is the only method for the conservation of mango germplasm. However, efforts were made to conserve mango pollen (105 accessions) in collaboration with NBPGR, New Delhi.

#### **Project Coordinator (1997-2000)**

During the period following awareness programmes were organized.

1. In the event of shortfall in the availability of canal water, it is suggested that the farmers may adopt alternate furrow irrigation, which will economize water requirement by nearly 50%.
2. Use of micro-irrigation system such as drip and sprinkler may be advocated wherever feasible and in the event of limited water availability as well as this system may use for improving the water use efficiency and to cover more area.
3. Development of ridge and furrow across the slope for effective conservation of soil moisture as well as rainwater.
4. Use of organic mulches such as subabul lopping, straw etc. to conserve the soil moisture. Top working technique has been demonstrated to rejuvenate the unproductive old gardens as well as poor yields and plantations raised with seedlings.

#### **SRF (1995-1997)**

During 1995-1997 of the survey as many as 335 guava orchards were visited for exploiting the available diversity in guava and fruits of eighteen guava accessions those were propagated by seeds at farmer's field in guava fruit belt of Kaushambhi (UP), collected and studied for physical and biochemical characteristics to assess their potential. The nine guava seedlings were found promising these varied in shape, size, colour of skin, flesh colour and seed content. Difference was noticed in pH, TSS, acidity, total sugar and reducing and non-reducing sugar and in Vit. 'C' content of the fruits also. Based on the bearing and fruit quality Allahabad Safeda, S SEL-1&3; Apple Coloured, A SEL-13b; Maroon guava, M SEL-1&2; Surkha (exocarp and mesocarp uniformly pink), PFS SEL-1; Spotted guava, SP SEL-1; Red Flesh, PF SEL-1; and others, CB SEL-1 are very promising selections.

### **Research (1990-1994)**

Completed in 1994 from Department of Horticulture, Allahabad Agricultural Institute, Allahabad (University of Allahabad), UP (India). **Dissertation:** Floral Biology, Fruit set and fruit quality of cape gooseberry (*Physalis peruviana* L.) as influenced by growth regulators.

### **Field Investigator (1988-1990)**

A survey was conducted in Allahabad district comprising the block Manda and Koraon in 50 villages for formulating the project entitled “Development of Women’s and Children’s of Rural Area”. During the period 45 groups of women’s were made keeping the 20 women in each group. Their one lady was selected as group leader in each group. The groups had been made for different rural trade.

### **Extra Curriculum Activities**

- Assistance in organizing International seminar with Undyaniki Anusandhan Samiti, Lucknow, India in the year of 2018, 2019, 2020 and 2021.
- Attended More 7 International Seminar related to Horticulture, Ayurveda, and Climate Change.
- Assistance in organizing International seminar with Bharat Sewa Sansthan, Lucknow, India in the year of 2014 and 2016.
- Created You-Tube channel entitled “ Bagwani India” and Uploaded 15 videos related to Horticulture subject.
- Attended Regional Seminar on Intellectual Property & Innovation Management in Knowledge Era, NRDC, 6<sup>th</sup> –7<sup>th</sup> November 2008 at CST, Lucknow.
  - Participated in NCC ‘B’ certificate, NSS and National Integration Programme.
  - Participated in social, cultural, debate program and Essay writing.
  - Participated in Farmers Fair and Workshop/Symposium/Seminar.

### **Professional activities**

- To conduct exploration for exploiting the mango and guava genotypes like primitive type local variety, landraces and wild type.
- Collection, Conservation, Characterisation, Evaluation, and Regeneration of mango and guava accessions.
- Assistance in Crop Improvement Programme by hybridization in mango and guava.
- Standardization of methods for multiplication of guava and mango.

### **Publications (No.)**

▪ Research Papers:	61
▪ Thesis	1
▪ Book Chapter	2
▪ Project Report	5
▪ Popular Articles	21
▪ Radio/TV Talk	8