BIODATA

1. Name : Dr. P. Latha

2. Designation : Scientist

3. Discipline / Department : Crop Physiology

4. Place of work : Institute of Frontier Technology,
Regional Agricultural Research Station,
Tirupathi-517 502, Andhra Pradesh, India

5. Date of Birth : 09.06.1972

6. Address for correspondence : Head, Crop Physiology
Institute of Frontier Technology
Regional Agricultural Research Station
Tirupati – 517 502, Andhra Pradesh, India

Phone No.: 9440233739
Mail:latha_damu@yahoo.com

7. Academic qualifications:

Degree / Diploma certificate	University / Board	College / Place of study	Month / Year of passing	Class obtained	Remarks
1	2	3	4	5	6
Ph.D	ANGRAU, Hyderabad	College of Agriculture, Rajendranagar, Hyderabad	2004	First	-
M. Sc (Ag)	ANGRAU, Hyderabad	S.V. Ag. College, Tirupati	1998	First	-
B. Sc (Ag.) /	ANGRAU, Hyderabad	S.V. Ag. College, Tirupati	1995	Second	-
Intermediate	Board of Intermediate Education	Sri Padmavathi Womens College, Tirupati	1989	First	-
SSC / Matriculation	Board of SSC	KJECS English medium high School, Tirupati	1987	First	-

		Day	Month	year
8.	Date of obtaining Ph.D. degree	21	09	2004
9.	Date of appointment in ANGRAU	27	09	2006
10.	Date of appointment / placement in the present post	03	05	2007

11.Employment Record in ANGRAU:

Station / Centre (Place of work with full address)	Designation / Post held	Scale of Pay	Period		Nature of duties
			From	To	
1	2	3	4	5	6
Regional Agricultural Research Station, S.V. Ag. College, campus, Tiruapti	Scientist (Plant Physiology)	15600+6000 AGP	03.05.2007	Till to date	Research
S.V. Ag. College, Tiruapti	Assistant Professor Plant Physiology	15600+6000 AGP	27.09.2006	02.05.2007	Teaching

12. Employment Record Outside ANGRAU:

Organization	Govt. or Quasi Govt.	Post held and place of work	Scale of pay	Period		Total period	Nature of duties
				From	To		
1	2	3	4	5	6	7	8
ACIAR/ ICRISAT/ ANGRAU collaborative project	Govt.	SRF, RARS, ANGRAU Tirupati, A.P.	8600/- (Rs. 8000+ HRA @ 7.5%)	10.02. 2003	31.01 .2005	1 year 10 months	Isolation of fungi, estimation of phenols, shell wall integrity, kernel water activity in harvested produce.
ICAR/ ANGRAU project	Govt.	SRF, RARS, ANGRAU Tirupati, A.P.	8600/- (Rs. 8000+ HRA @ 7.5%)	01.02. 2005	26.09 .2006	1 year 7 months	Survey of afltaoxin contamination in soils of A.P. and in groundnut kernels collected from farmers, traders etc. Estimation of aflatoxin through HPLC and ELISA.
Total period						**3 years 6 months 16 days**	

13. **AWARDS & HONOURS:**

Awards

Awarded as **"Appreciation award"** at Scientist level cadre during 68th Independence Day Celebrations **on 15.08.2014**

14. Career Profile:

Research undertaken during Studies

- **Title of thesis for doctoral degree**:

  "Genotypic variation for water use efficiency in advanced breeding lines of groundnut developed through trait and empirical methods under moisture stress" under the chairmanship of **Dr.P.V.Reddy (Rtd.),** Associate Director of Research, RARS, Tirupati.

- **Knowledge up gradation during career**

- Two weeks training program on "Physiological and Molecular aspects of improving Crop adaptation to Drought" 15th February, 2016 – 27th February, 2016, at Department of Crop Physiology, University of Agricultural Sciences, Bengaluru – 560065

- 21 days training on "Current Biochemical and molecular techniques for nutritional enhancement and stress tolerance in crop plants" November 11th – November 21st, 2012, at Division of Biochemistry, Indian Agricultural Research Institute, New Delhi, 110 012

- 21 days training on "Photosynthetic Efficiency and Crop Productivity under climate change scenario" August 25th – September 14th, 2009 at Division of Plant Physiology Indian Agricultural Research Institute, New Delhi, 110 012

- Two days training on "Pesticide residue analysis through HPLC" at Pesticide residue lab, College of Agriculture, Rajendranagar, Hyderabad.

- Two days training on "Quantification of aflatoxins using PHRED and aflatest P columns through HPLC" at IISR, Calicut, Kerala

- **Research Guidance:**

  - Students guided as chairman
    P.G : 3
  - and as member
    P.G. : 7
    Ph.D **: 4**

15. List of Research Projects handled:

S.NO	PI/CO. PI	Name of the Project	Funding Agency	Outlay (Lakhs)	Duration (Y)
1	PI	RKVY Project – Drought mitigation: Identification of reliable methods to sustain crop growth and yield in groundnut	RKVY Ongoing	6.642	3
2	Associate	RKVY Project - Mapping and tagging of drought tolerance related traits in the already advanced breeding lines based mapping populations and the use of the knowledge for development of future groundnut varieties with progressively improved tolerance to drought	RKVY	14.0	3
3	PI	Development and validation of HPLC method for determination of aflatoxins in different crops **(concluded)**	State plan	**49.0**	5
4	Associate	RKVY Project – Development of high yielding groundnut varieties with resistance to drought through bio technological approach **(Concluded)**	RKVY	28.62	3
5	Associate.	Molecular characterization and identification of non – toxic *Aspergillus flavus* strain **(concluded)**	State plan	14.00	6
6	Senior Research Fellow	Prevention and management of Mycotoxin contamination in commercially important agricultural commodities (concluded)	ICAR net work Project	9.06	3
7	Senior Research Fellow	Selection for peanut varieties with low aflatoxin risk (concluded)	ACIAR-Australia	10.8	3

16 Books and Chapters published:

- **Books:**

1. P.Sudhakar, **P.Latha** and P.V.Reddy. 2016. PHENOTYPING CROP PLANTS FOR PHYSIOLOGICAL AND BIOCHEMICAL TRAITS.
   Published at International level by Academic press (An imprint of Elsevier), London. Copies were released.

2. P.Sudhakar, **P.Latha** and P.V.Reddy. 2013. PHENOTYPING CROP PLANTS FOR PHYSIOLOGICAL AND BIOCHEMICAL TRAITS.
   Published at National level by BS publications. Copies were released.

- **Book Chapters:**

3. **Latha P** 2015 "Kernel qualitative traits in groundnut" Chapter no. 36 published by BS publications.

4. P.Sudhakar, K.Vijay Krishna, **P.Latha**, V.Sai Sruthi, K.Sujatha, B.V.Bhaskar Reddy, B.Ravindra Reddy, K.Raja Reddy, T.Giridhara Krishna and M.S. Reddy2014 Efficacy of *Pseudomonas fluorescens* strains in enhancing drought tolerance and yield in peanut. Cambridge Publishers, United Kingdom

17 Research publications

- Research papers **: 25**
- Posters presented in seminars **: 36**
- Nucleotide sequences deposited : 02

International publications: 8

P Latha, P Sudhakar, Y Sreenivasulu, P H Naidu and P V Reddy 2007 Relationship between total phenols and aflatoxin production of peanut genotypes under end-of-season drought conditions. **Acta Physiologae Plantarum**:29-563-566

T.N.V.K.V. Prasad, P.Sudhakar, Y.Sreenivasulu, **P.Latha,** V.Munaswamy, K.Raja Reddy, T.S.Sreeprasad, P.R.sajanlal and T.Pradeep 2012 Effect of nanscale zinc oxide particles on the germination, growth and yield of peanut. **Journal of Plant Nutrition:** 35:6, 905-927

Julie Bélanger, Mungara Balakrishna, **Putta Latha,** Shoba Katumalla, Timothy Johns 2010 Contribution of selected wild and cultivated leafy vegetables from South India to lutein and β-carotene intake. ***Asia Pac J Clin Nutr 2010;19 (3):417-424***

Himabindu, Shantipriya, Mohan Reddy, P.Sudhakar, Y.Sreenivasulu, Reddisekhar, **P.Latha** and Rupesh Kumar Reddy 2012 Studies on the effect of age of invitro grown seedlings on regenerative response of explants in tomato. International Journal of applied biology and pharmaceutical technology. 3(4): 486-490

Himabindu, Shantipriya, Mohan Reddy, P.Sudhakar, Y.Sreenivasulu, Reddisekhar, **P.Latha** and Rupesh Kumar Reddy 2012 Studies on the effect of various sterilants and culture conditions on invitro seed germination in tomato. International Journal of applied biology and pharmaceutical technology. 3(4): 486-490

P.Sudhakar, M.Guru Prasad, **P.Latha,** L.Prasanthi 2012 Efficient plant regeneration of green gram via cotyledenary explant. Asian journal of Science & technology. 29 (1)

P.Sudhakar, **P.Latha** and Y.Sreenivasulu 2009 Effect of Trichoderma viride on population density of Aspergillus flavus in soil and kernel infection in peanut. Asian Journal of Microbiology, Bio-Technology and Environmental Sciences 1: 452

P.Sudhakar, Y.Sreenivasulu and **P.Latha** 2009 Standardization of growth medium, incubation period for detection and quantification of aflatoxin production by TLC method. Asian Journal of Microbiology, Bio- Technology and Environmental Sciences 1:473

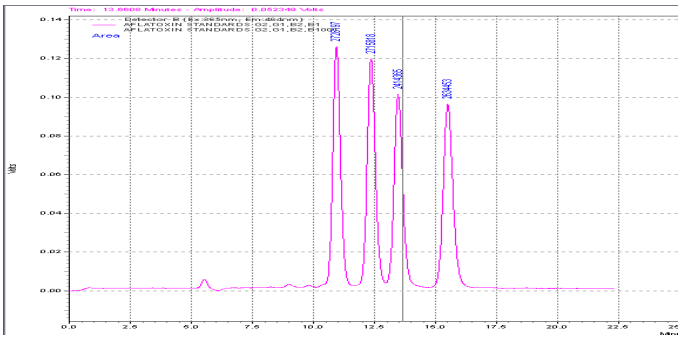
18. Strengths:

- **As a Team member**: Groundnut is rainfed crop and prone to recurrent droughts in A.P. To assure income to poor farmers under such situations three drought tolerance groundnut varieties were developed (Abhaya, Greeshma and Dharani) and released from this institute.

- Established High performance liquid chromatography (HPLC) at Crop Physiology department, Institute of Frontier Technology, RARS, Tirupati.

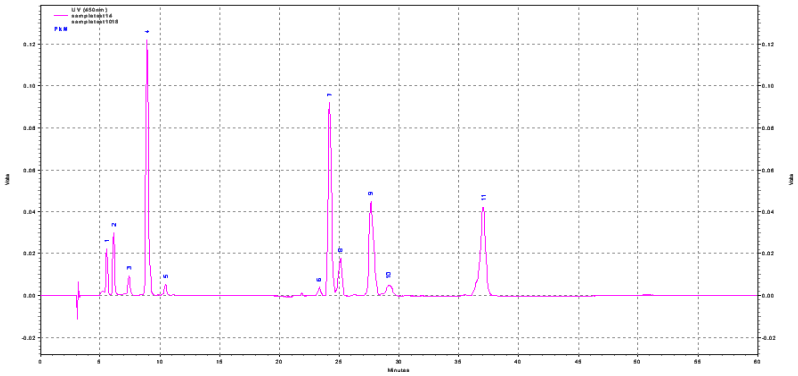
- Established Quality traits analysis lab at Crop Physiology department, Institute of Frontier Technology, RARS, Tirupati

- Standardized protocols for quantification of aflatoxins (B1, B2, G1 and G2) using HPLC utilizing post column derivatization unit and Fluorescence detector at Crop Physiology department, Institute of Frontier Technology, RARS, Tirupati.



Chromatogram showing Standard Aflatoxin peaks (AfG2, AfG1, AfB2 and AfB1) eluted at particular retention times.

- Standardized protocols for quantification of carotenoids (Lutein, beta carotene) using HPLC utilizing UV detector at Crop Physiology department, Institute of Frontier Technology, RARS, Tirupati.



- On commercial basis also, acquired permission for qualitataive and quantitative estimation of samples through HPLC on cost basis which is added to general revolving fund.

- Standardized protocols for quantification of quality traits viz., proteins, oil, carbohydrates, amino acids, anti oxidant enzymes, carotenoids, anthocyanins using UV-VIS spectrophotometer

- Developed and established method of phenotyping for drought adaptive traits

- Developed and established method of phenotyping root traits.

Genotypic variability for root length

- Developed and established method of phenotyping genotypes for high temperature stress by Thermo induction response (TIR).

- Screened genotypes for moisture stress, temperature stress and oxidative stress tolerance in groundnut, blackgram, green gram, ragi and sugarcane.
- Screened genotypes for salinity stress tolerance in sugarcane
- Screened genotypes for iron chlorosis tolerance in groundnut.
- Screened genotypes for low phosphorus efficiency in groundnut
- Team member in developing first transgenic in the university viz., transformed groundnut with the gene cry1F against *Spodoptera litura* using Agrobacterium method.
- Team member in developing tissue culture protocols in Groundnut, Blackgram, redgram and greengram.

19. Phenotyping for abiotic stresses and quality traits, the Institutional and Departmental facilities available at Crop Physiology Department, Institute of Frontier Technology, RARS, Tirupathi:

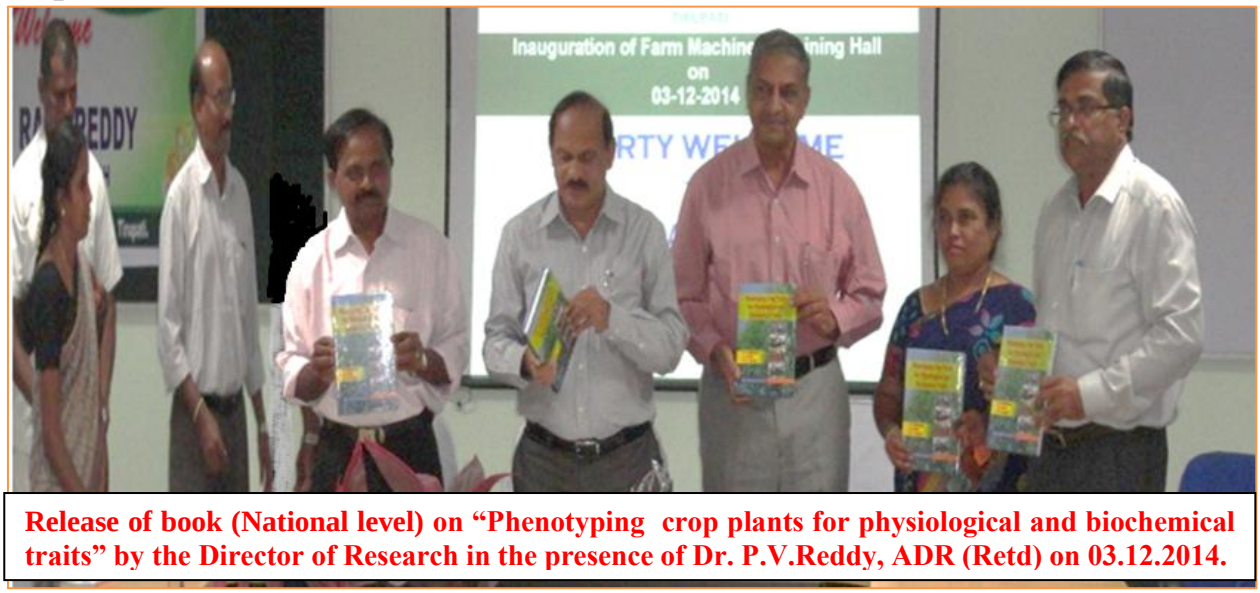
Equipment:

Sl no.	**Name of the equipment available in the Department**
1	Environmental chamber for imposing Temperature Induction Response (TIR) Technique
2	Portable photosynthetic system (IRGA)
3	SPAD Chlorophyll meter
4	UV Spectrophotometer
5	High performance liquid chromotography

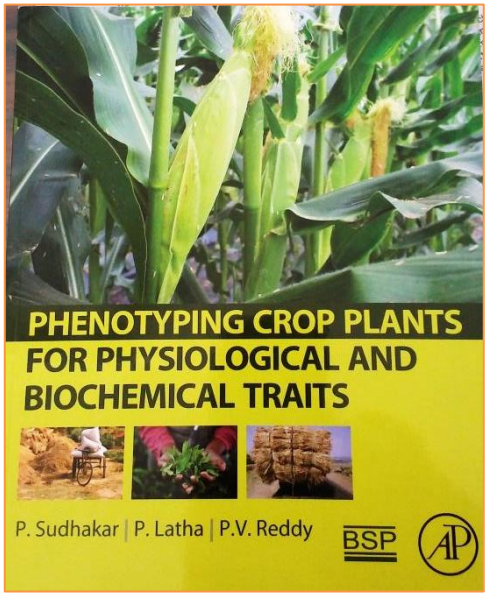
Other Infrastructural facilities:

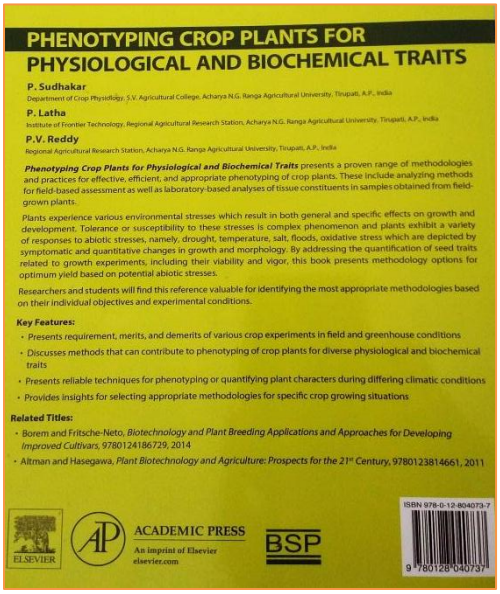
Sl no.	**Name of the facility**
1	Rainout shelters for imposing moisture stress
2	Raised soil beds for root mining studies

Important Photos:



Release of book (National level) on "Phenotyping crop plants for physiological and biochemical traits" by the Director of Research in the presence of Dr. P.V.Reddy, ADR (Retd) on 03.12.2014.





P.Sudhakar, P.Latha and P.V.Reddy. 2016. PHENOTYPING CROP PLANTS FOR PHYSIOLOGICAL AND BIOCHEMICAL TRAITS. Published at International level by Academic press (An imprint of

Appreciation Certificate received from Bojjala Gopalakrishna Reddy, Hon'ble Minister for Forests & Environment, Science & Technology and Siddartha Jain, IAS, Chittoor District Collector