

Dr. K. SUREKHA

Email-id: surekhakuchi@gmail.com

Phone: 040-24591221 (O) 94409-63382 (M)



1. Personal bio-data:

- a) **Position/Designation** : **Principal Scientist**
- b) **Joining date in ICAR** : **24-01-1992, (DOB: 15-07-1963)**
- c) **Discipline and Specialization** : **Soil Science (Chemistry/Fertility/Microbiology)**

d) Training/advance exposure in the area of work:

- Participated in winter school on “**Organic farming for sustainable agriculture**” at College of Agriculture, KAU, Vellayani, **Trivandrum**, Kerala during 17th November to 7th December, 2004.
- Participated in the training programme on “**Scientific writing and presentation skills**” organized by IRRI-ICAR during 10-15 May 2004 at DRR, **Hyderabad**.
- Attended a training programme on “**GIS applications in Agricultural Research**” “sponsored by NAARM at **Hyderabad** during March 3-12, 2003.
- Attended training programme on “**Assessment and modelling of Soil and crop growth parameters using remote sensing and GIS**” held at IARI, **New Delhi** during 9th to 29th July, 1997.
- Attended 11 week course on “**Remote Sensing Technology and its Applications**” during November 02, 1998- January 15, 1999 at National Remote Sensing Agency (NRSA), Balanagar, **Hyderabad**-500 037.

e) Contribution to the scientific advancement :

- Developed a preliminary protocol for organic rice farming and studied all aspects of organic farming in rice.
- Studied the mineralisation and nitrogen release pattern from organics of wide and narrow C:N ratios with low and high lignin content and found that proper mixing of these sources regulates the release of nutrients for longer periods.

- Repeated application of rice straw either alone or with green manures resulted in higher N release with high yield and nutrient use efficiency than chemical fertilisers.
- Recorded higher productivity with four splits of nitrogen last one coinciding with flowering in case of rice hybrids.
- Hybrid rice responded to potassium application up to 40 kg K/ha and the magnitude of response was high in hybrids.

2. Future Planning of research :

- Evaluation of nutrient use efficiency (N, Zn and other nutrients) of existing popular varieties and identification of efficient genotypes.
- Evaluation of various indices of nutrient use efficiency in the identified efficient genotypes.
- Development of various techniques (Agronomic and molecular approaches) for improving nutrient use efficiency.
- Developing efficient composting techniques for rice straw utilisation.
- Soil health improvement in rice production systems.

3. Publications :

- **Surekha, K;** Latha, P.C; K.V. Rao and R.M.Kumar. 2010. Grain yield, yield components, soil fertility and biological activity under organic and conventional rice (*Oryza sativa* L.) production systems. *Communications in Soil Science and plant analysis*.41 (19): 2279-2292. (**International Journal**)
- **Surekha, K** and K. V. Rao. (2009). Direct and Residual Effects of Organic Sources on Rice Productivity and Soil Quality of Vertisols. *Journal of the Indian Society of Soil Science*. 57 (1): 53-57.
- **Surekha, K.** (2007). Nitrogen release pattern from organic sources of different C:N ratios and lignin content, and their contribution to irrigated rice (*Oryza sativa*). *Indian Journal of Agronomy*. 52 (3): 220-224.
- **Surekha, K;** K. Pavana Chandra Reddy., A.P. Padmakumari and P.C.Sta Cruz, 2006. Effect of straw on yield components of rice (*Oryza sativa* L.) under rice- rice cropping system. *Journal of Agronomy and crop science*. 192:92-101. (**International Journal**)
- **Surekha, K;** A.P. Padmakumari, M. Narayana Reddy, K. Satyanarayana and P.C.Sta Cruz, 2003. Crop residue management to sustain soil fertility and irrigated rice yields. *Nutrient Cycling in Agroecosystems*. 67:145-154. (**International Journal**)

4. Other relevant activities of Scientist :

- Assisting in Co-ordination of Soil Science AICRIP trials.
- Acting as a member in various Institute committees.
- Acting as a resource person in training programmes organized by DRR and other outside organizations.
- Acting as a member of Editorial committee of “Journal of Rice Research”.
- Compilation of DG’s six monthly report and other periodical reports.
- Acting as a member of Advisory committee for M.Sc (Ag) and Ph.D students of Soil science and Agronomy disciplines of ANGRAU.