Resume of Biodata

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2. **Designation** : Former Dean, Faculty of Science
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4. **Date and Place of Birth** : 3rd June 1963, Quadirabad (U.P.), India
5. **Educational Qualifications** : M. Sc. (1985), Ph. D. (1991)
6. **Publications:**

Research Papers	:	136
Reviews	:	16
Book	:	02
Book Chapters	:	38
Nucleotide Sequence Submitted to Gen Bank	:	147

7. **R&D Projects undertaken: 23 (Sponsored by DBT, DST, DOEN, Dept. of AYUSH, CSIR, DRDO)**
8. **Ph.D. Students Guided:** (a) As Supervisor : **36** (b) As Co-Supervisor : **17**
9. **Seminar/Symposia/Workshop attended:** (a) National : **29** (b) International : **20**
10. **Seminar/Symposia/Workshop organized:** (a).National : **21** (b) International : **02**
11. **Lectures Delivered in National/International Universities and Institutes:** (a).National: **71** (b). International : **15**
12. **Name of the Countries visited for academic purpose:** USA, Vietnam, Hong Kong, Iran, Saudi Arabia, China, Hungary, Germany, Japan, Australia, France
13. **Membership in Professional Societies:**

Life Member

Indian Society for Plant Physiology
Society for Plant Biochemistry and Biotechnology
The Indian Society of Genetics and Plant Breeding
National Environmental Science Academy
Biotechnology Society of India
Indian Science Congress Association

14. **R&D Achievements**

1. A new method of electrospray-mass spectrometry was developed for the detection of artemisinin (a novel antimalarial drug and a natural herbicide) in pico mol concentration **(Anal. Chem., 1997)**. A new HPTLC based method for detection of mevalonate, a precursor for the biosynthesis of terpenes, in biological samples has also been developed (**Chromatographia, 2008**).
2. The pathway for artemisinin biosynthesis was elaborated further and the relative contribution of carbon by mevalonate and Rohmer pathways was established. The novel proteins identified can be used in bioreactors for commercial production of artemisinin from its precursors **(J. Nat. Prod., 1998; Acta Physiol. Plant., 2010).** 22.5-38.9% increase in artemisinin content was reported in transgenic lines of *Artemisia. annua* L. over expressing hmgr gene from *C. roseus* L. biovar. Alba **(Planta Med., 2009, Plant Biotech, 2011)**. We have also over expressed both *hmgr* and *ads* genes in *A. annua* leading to an increase in artemisinin content by 76.5 % (**Plant Cell Rep., 2011**).
3. Efficient protocols were developed for the regeneration of plantlets from leaf and hypocotyls explants of *Cichorium intybus* L., *A. annua* L., *Brassica juncea* cv Pusa Jaikisan and *Fragaria x ananassa* Duch **(In vitro Cell. Dev. Biol.-Plant, 2003; J. Crop Sci. Biotech., 2008; Protoplasma, 2010)**.
4. A linear relationship was established between Pn rate and N content per unit area of fully matured leaves of rapeseed-mustard (*Brassica juncea* L. Czern and Coss cv. Pusa Jai Kisan and *Brassica campestris* L. cv. Pusa Gold) receiving S-fertilization even when their leaf-N content exceeded $2gm^{-2}$. This effect of S-fertilization on Pn rate was explained in terms of improved N-utilization efficiency and incorporation of reduced-N into the Rubisco protein **(Physiol. Plant., 2000)**.

15. **Extension Activities**

1. We supplied 1000 tissue culture raised *Artemisia annua* L. seedlings along with the tissue culture protocol (**Planta Med., 2009**) under a research contract to M/s Ipca Pvt. Ltd., Mumbai. These seedlings were transplanted in Ipca, Ratlam (M.P) with 98% survival rate.
2. An **Improved Nutrient Management Technology** for optimization of yield and quality attributes of rapeseed-mustard and pulses (chickpea and pigeonpea) was developed with the financial support from Technology Mission on Oilseeds, Pulses and Maize (TMOP&M). This technology has potential to increase productivity of rapeseed-mustard and chickpea by more than 80% and of pulses by 35% (pigeonpea). It also improves the amount and quality of oil and seed protein. Field demonstrations were carried out in U.P., Rajasthan and Haryana with the help of selected NGOs. Technical bulletins were distributed among the farmers. Meetings with farmers were organized to discuss the technology and its advantages. A telefilm entitled ***"Sakal Ban Phool Rahi Sarson"*** was shown to the farmers. It was also telecaste on Gyan Darshan Channel of Door Darshan. My interview was also telecaste in Krishi Darshan Programme on Door Darshan Channel on November 7, 2000. Local News Papers were also used in this campaign.

(Professor M. Z. Abdin)