SCIENTIST PROFILE

1. Name & Designation : Dr. M.J. Baig, Principal Scientist
2. Date of Birth : 22nd May, 1963
3. Date of joining ICAR : 29th June, 1995
4. Date of joining the present post : 29th June, 2010
5. Qualification (highest degree) : Ph.D
6. Post Doctoral Research Experience/Training:
   - A six month Training on " Plant genetic engineering and Molecular breeding at National Research Centre on Plant Biotechnology, IARI, New Delhi. In the year 2003.
7. Area of Specialization/research interest:
   - Photosynthesis and productivity, Abiotic stress Physiology (low light)
8. Significant Contribution including products and patents (Five bullets):
   - Promising varieties for low light situation: Swarnaprabha, Ptb 10, Hamsa, T 90, Mahsuri, Pallavi, Vijaya, NC 1281, Vajram & Hybrid IR 54752A/Vajram, 29A/Vajram, Archana, Prakash, Karikalan, Padma, IET 355, IET 721,CS 725, Monoharsali, IET 12238, 12537, 12563, 12564, and 12785.
   - In hybrid rice PHB-71 showed a yield decrease of 23.77%, 35.15%, 45.05%, Rajalaxmi showed 29.18%, 39.78%, 50.60% and Ajay records the yield loss of 20.84%, 34.13% and 42.87% over control when grown under 75, 50 and 25% light intensities, respectively.
   - The greater accumulation of chlorophyll b in Ajay under shade predicted its shade adaptability.
   - Three species of Suaeda S. maritima, S. fruticosa & S. monoica belongs to Chenopodium family were collected from different parts of India and were characterized for the single cell C4 photosynthesis system if any. Study shows that Suaeda monoica is having C4 photosynthesis system without typical bundle sheath cell.
9. Awards/Honours: Nil
10. Publications (10 best):
    i. **Baig MJ**, Bhatt RK, Tiwari HS and Swami P (2012). Assimilatory function and biochemical changes in Stylosanthes hamata grown under elevated CO_2. **Plant, Soil and Environment** 58(5): 224-229.
    ii. Pandey HC, **Baig MJ** and Bhatt RK (2011). Response of *Avena* species leaf photosynthesis and stomatal conductance to water stress. **Indian Journal of Plant Physiology** 16(3&4): 346-349.
    iii. Bhatt RK, **Baig MJ** and Tiwari HS (2010). Elevated CO_2 influences photosynthetic characteristics of *Avena sativa* L cultivars. **Journal of Environmental Biology** 31: 813-818
    iv. Pandey Harish C, **Baig MJ** and Bhatt RK (2010). Drought stress induced changes in lipid peroxidation and antioxidant system in genus *Avena.* **Journal of Environmental Biology** 31: 435-440.
    v. Bhatt RK, **Baig MJ** and Tiwari HS (2007). Growth, biomass production and assimilatory characters in *Cenchrus ciliaris* L. under elevated CO_2 condition. **Photosynthetica** 45(2): 296-298.
    vi. **Baig MJ**, Anand Anjali, Mandal PK and Bhatt RK (2005). Irradiance influences contents of photosynthetic pigments and proteins in tropical grasses and legumes. **Photosynthetica** 43(1): 47-53.
    vii. Swain P, **Baig MJ** and Nayak SK (2000). Maintenance respiration of *Oryza sativa* leaves at different growth stages as influenced by nitrogen supply. **Biologia Plantarum** 43(4): 587-590.

viii. Anand A, **Baig MJ** and Mandal PK (2000). Response of alfalfa genotypes to saline water irrigation. **Biologia Plantarum** 43(3): 455-457.

ix. **Baig MJ,** Swain P and Murty KS (1998). Photosynthetic ability of some elite hybrids and restorers. **Photosynthetica** 35(2): 241-246.

x. **Baig MJ**, Swain P and Murty KS (1996). Effect of low light stress on rice (*Oryza sativa*) hybrids. **Indian Journal of Agricultural Sciences** 65(5): 299-301.