The application of plant biotechnology in seed industry in the developing countries

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The indigenous seed industry in most developing countries comprises of small and medium scale seed industry. This is supplemented by satellite research laboratories and sales & marketing units of the large trans-national companies. From the angle of application of plant biotechnology, some of the factors playing a decisive role for the indigenous small and medium scale seed industry include quick delivery of results, readily available technologies, minimal risk in investment, proven technologies and minimal financial resources. The large scale trans-national seed companies on the other hand have the investment potential for capital-intensive research and novel research with distant returns. The academia in both, the developing and the developed countries tend to be driven more by novel research having publication potential rather than by application value. Such a situation presents the indigenous small and medium scale seed industry in the developing nations with a unique challenge of having to do with a technical workforce who have a gap in training and application and to deliver with limited capital resources. This talk will cover an overview of plant biotechnology. An attempt will be made to present the actual seed industry situation in the developing countries. Plant biotechnology will be sectioned into various areas of application, of which the small and medium scale seed industry is one. The areas of strength and weakness will be discussed. With the advent of low cost sequencers, the molecular-breeding scenario is likely to change at all levels. A paradigm shift in challenges from infrastructure to analytics is expected. Discovery research versus applied research will be discussed. The clarity shed on the applications of plant biotechnology in developing countries should be a handy tool for the aspiring plant biotech professionals, seed industry in the developing countries and for the governmental policy makers.

Biography

Rajeev Taggar has been associated with biotechnology in the seed industry for about 20 years. As a Scientist In-charge of Molecular Breeding activities, he worked with Bayer CropScience, India, Krishidhan Seeds, India, ICRISAT, India and Green World Genetics Sdn Bhd, Malaysia (Presently working). Working closely with a team of crop breeders, he established molecular breeding laboratories and molecular breeding programmes for his employer organizations. He got professional training in Plant Biotechnological techniques from Germany on a DSE-sponsored course, from the Central Research Facility of Nunhem's Zaden, the Netherlands and from the John Innes Centre (UK). He holds an MSc in Plant Genetics & Crop Improvement from John Innes Centre, University of East Anglia, UK; MSc in Botany and MPhil (Botany) from Kurukshetra University, India.

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