Conference Report

5th European Nitrogen Fixation Conference—A Report

Reduction of gaseous nitrogen present in air into ammonia, commonly called as nitrogen fixation, occurs by abiological and biological processes. The biologically fixed nitrogen provides an ecologically acceptable alternate to costly and polluting chemical nitrogen fertilizers. The meetings, organized from time to time, among scientists, industrialists and administrators working in the field of nitrogen fixation have proved to be very useful for development of this field which aims to get increased agricultural production. One such meeting, the 5th European Nitrogen Fixation Conference, was recently held at Norwich, UK from 6th-10th September 2002. The conference was jointly organized by the John Innes Centre and the University of East Anglia. The aim of the conference was to enhance European collaboration in the field of Nitrogen Fixation Research and to foster collaborations between European scientists and those in the developing world. This conference was attended by 318 scientists from 43 countries. Four scientists (N. Garg, R. Serraj, A. Tripathi and myself) from India participated in this meeting.

The conference format consisted of 13 sessions: Nitrogen in global agriculture and the environment; Genomics, taxonomy and evolution; Rhizosphere interactions and root surface signals; Molecular structure and function; Signal transduction cascades in bacteria and plants; Transcriptome and proteome analysis; Nitrogen regulation and N-assimilation; Physiological aspects of nitrogen fixation; EU collaborations with developing countries; Cell differentiation; Sustainable and low-input agriculture; Colonization of plant host cells; and the Final plenary lecture. The opening session was intended to raise public awareness of nitrogen-fixation research by placing it in the context of global agriculture and environmental change. In this session, chaired by Professor Sir John Beringer (University of Bristol, UK), following lectures were delivered: Sustainable agriculture: the importance of nitrogen (J. Pretty, University of Essex, U.K.), Agronomic and environmental significance of nitrogen fertilizers (P. Goddard, Norsk Hydro, ASA, Norway) and Exploitation of biological nitrogen fixation in global agriculture (P. Gresshoff, University of Queensland, Australia). The final plenary lecture was on Nitrogen fixation research: the next ten years (F. de Bruijn, France). Poster presentation was an important part of the conference and the posters were on display throughout the meeting. Some of the findings reported in this conference were the map based cloning of a receptor kinase gene (G. Kiss), genome evolution in rhizobia (P. Young), signalling in rhizobia (D. Barker), Nod factor signalling (C. Gough), transcriptome analysis (J. Batut), ammonium transport (E. Patriarca), amino acid shuttle (P. Poole), nodule differentiation genes (A. Kondorosi) and nitrogen inputs under zero tillage (R. Boddey).

Specialist workshops were also organized before, during and after the main conference. The most prominent among these were the NATO-Russia Workshop, Aral Sea Pladadinfis Workshop and the Rhizobium Genome Workshop.

The participation of a large number of scientists from different parts of the world, the presentation of high quality research work and the fruitful discussions among participants made this conference a highly successful event. This success was achieved largely due to the intelligent planning and the hard work of local organizers (N. Brewin, R. Dixon, B. Smith and A. Johnston) and the generous support from the sponsors (European Union CORDIS, Federation of European Microbiology Societies, Norsk Hydro, ASA, Norway, and International Society for Plant Molecular Biology). It may be worth mentioning here that William Bateson, who coined the word genetics, was the first Director of the John Innes Institute, the venue of this conference.

This conference was fifth in the biennial series. The sixth conference in this series will be held in Toulouse, France in 2004.

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