

Preface

This Special Issue collects a number of the invited papers and other submitted contributions from the international conference on *Integrated Approaches to Sustain and Improve Plant Production under Drought Stress* (InterDrought-II) held in Rome, Italy, on 24-28 September 2005. The Volume of abstracts of all invited and volunteered oral and poster presentations has been distributed to all InterDrought-II participants; the corresponding file is available online at the conference web site (www.plantstress.com/ID2).

InterDrought-II followed the first InterDrought conference held in Montpellier France in 1995. InterDrought-II was attended by 534 registered participants from 59 countries. A total of 450 posters were presented. Oral presentations were delivered during eight sessions by 28 invited speakers and 44 selected speakers. A total of nine panellists conducted the final discussion of the plenary sessions which led to the conference conclusions and recommendations. These are posted on the conference web site, www.plantstress.com/ID2

Despite the importance of drought as a major constraint in food production worldwide, there has, surprisingly, been no other major and dedicated international symposium since the first InterDrought conference in 1995. The objective of the first InterDrought conference was to provide a platform for presenting and debating in a multidisciplinary fashion key issues and strategies relevant for increasing the yield and stability of crops under drought conditions by genetic and crop management approaches. Great advances in understanding the molecular basis of plant response and tolerance to drought stress have been made in recent years. Hundreds of drought-responsive genes have been identified and the function of some has been resolved at the cellular level. However, a huge gap remains between the molecular level science and the interpretation and application of this knowledge at the whole plant level in the field. If we are to advance practical solutions for drought-prone farming, there is increasing demand for cross-talk between the component disciplines which contribute to the understanding and amelioration of plant stress responses. InterDrought-II presented a unique and timely opportunity for this purpose. The main mission of InterDrought-II was to explore the possibilities for the application of novel science and technology to crop improvement and crop management under drought by linking progress made at the molecular level with the physiology and agronomy of plant production under limited water supply in the field. During the conference, effective approaches to achieve better crop productivity under drought conditions as well as the research needed to move forward in this direction were presented and discussed.

The Organizing Committee and the International Steering Committee are most grateful to the sponsors who generously supported the implementation of this conference as well as the participation of many young scientists coming from developing countries. We are particularly grateful to the Rockefeller Foundation. The complete list of sponsors is posted on the conference website at www.plantstress.com/ID2. We remain confident that integrated approaches will be instrumental in advancing our understanding of drought tolerance and will allow us to more effectively exploit new knowledge to improve and stabilize crop yields under water-limited conditions. We hope that the legacy of the InterDrought conference series will continue, thus providing inspiration to young scientists willing to pursue the challenges of drought-related research.

InterDrought-II Organizing Committee

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Integrated Approaches to Sustain and Improve Plant Production under Drought Stress

Papers presented by contributors at the Second International Conference on *Integrated Approaches to Sustain and Improve Plant Production under Drought Stress* (InterDrought-II) held at the University of Rome 'La Sapienza', Rome, Italy from 24 to 28 September 2005

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