

## CONTENTS

|                                |     |
|--------------------------------|-----|
| CONTRIBUTORS TO VOLUME 56..... | vii |
| CONTENTS OF VOLUMES 35-55..... | ix  |

### Nodule Physiology and Proteomics of Stressed Legumes

M. I. QURESHI, S. MUNEEER, H. BASHIR, J. AHMAD  
AND M. IQBAL

|                                                                          |    |
|--------------------------------------------------------------------------|----|
| I. Introduction.....                                                     | 3  |
| II. Plant-Microbe Interaction and Specificity.....                       | 5  |
| III. Infection and Nodulation Mechanisms.....                            | 6  |
| IV. Nodule Proteomics: Wet Laboratory and Bioinformatics Procedures..... | 14 |
| V. Proteomic Response of Nodule to Different Stresses.....               | 27 |
| VI. Applications of Nodule Proteomics.....                               | 36 |
| VII. Conclusions.....                                                    | 38 |
| Acknowledgements.....                                                    | 38 |
| References.....                                                          | 38 |

### Molecular Aspects of Fragrance and Aroma in Rice

APICHART VANAICHIT AND TADACHI YOSHIHASHI

|                                                                           |    |
|---------------------------------------------------------------------------|----|
| I. 2-Acetyl-1-Pyrroline, a Potent Flavour Component of Aromatic Rice..... | 50 |
| II. Aromatic Gene Discovery.....                                          | 51 |
| III. Molecular Mechanisms Regulating 2AP Biosynthesis.....                | 54 |
| IV. Biochemical Functions of Os2AP and BADH.....                          | 58 |
| V. Formation Pathway of 2AP.....                                          | 60 |
| VI. Genetic Diversity and Origin of the Aromatic Gene.....                | 64 |
| VII. Environmental Adaptability of Aromatic Rice.....                     | 69 |
| References.....                                                           | 70 |

**Miscanthus: A Promising Biomass Crop**

EMILY A. HEATON, FRANK G. DOHLEMAN, A. FERNANDO MIGUEZ, JOHN A. JUVIK, VERA LOZOVAYA, JACK WIDHOLM, OLGA A. ZABOTINA, GREGORY F. MCISAAC, MARK B. DAVID, THOMAS B. VOIGT, NICHOLAS N. BOERSMA AND STEPHEN P. LONG

|                                                        |     |
|--------------------------------------------------------|-----|
| I. Introduction.....                                   | 76  |
| II. Productivity.....                                  | 85  |
| III. Physiology.....                                   | 95  |
| IV. Breeding, Genomics and Genetics.....               | 102 |
| V. Environmental Impacts.....                          | 111 |
| VI. Technical Challenges to Commercial Production..... | 116 |
| Acknowledgements.....                                  | 124 |
| References.....                                        | 124 |
| Author Index.....                                      | 139 |
| Subject Index.....                                     | 151 |