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BOOK OF ABSTRACTS



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Content

Committee	3
Program IBSC 2021 25-26 November	5
ABSTRACTS	
Plenary Lectures	13
Track 1	19
Track 2	86
Track 3	119
Track 4	203
AUTHORS INDEX	253

PL-7 Application of plant phenotyping methods in research and breeding

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INTRODUCTION:

One of the important recent global challenges is to provide sufficient amount of food and plant derived raw materials for the growing population. This task requires new approaches in plant research and breeding. A very important development in this field has been the development and wide spread application of plant phenotyping methods during the last 15 years. The main goal of this approach is the quantitative characterization of environmental stress effect on the growth and physiological response of plants under controlled greenhouse- and field conditions, as well as the clarification of how the genetic and molecular background determines the phenotypic characteristics of plants.

OBJECTIVES:

The lecture will cover the basic methods and approaches of plant phenotyping, as well as recent results from the Szeged group.

RESULTS:

The presented results deal with: (i) The applicability and limitation of image based shoot phenotyping approaches to estimate grain yield in wheat. (ii) The interaction of drought and salt stress in crop plants. (iii) The development of affordable phenotyping tools, which could promote more wide spread applications of phenotyping approaches in everyday research and breeding tasks.

CONCLUSIONS:

Plant phenotyping is a rapidly growing field, both in basic research in plant biology and in applied agricultural sciences, which is still under rapid development at the moment and expected to continue prospering in the coming years.

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Ivo M. Karaman T1-IL-5 22

J

Jadranka Luković T1-P-41 76
Jadranka Luković T4-P-11 222
Jakkrit Nukitram T3-P-1 125
James Curtin T4-P-3 213
Janko Legner T3-P-53 184
Janmanee Panyawai PL5 16
Jan Sudi T4-P-30 244
Jaruwan Mayakun T1-IL-3 8
Jaruwan Mayakun T1-P-24 54
Jasen Kundalić T3-P-27 154
Jasmina Agbaba T1-P-26 56
Jasmina Anojčić T1-P-14 41
Jasmina Lazarević T3-P-23 149
Jasmina Stojkovska T3-P-6 130
Jelena Arsenijević T1-P-6 31
Jelena Bašić T3-P-27 154
Jelena Čakarević T3-P-26 153
Jelena Čakarević T3-P-64 197
Jelena Čanji T3-P-3 127
Jelena Čanji T3-P-10 134
Jelena Čanji T3-P-35 164
Jelena Čanji T3-P-43 173
Jelena Čanji T3-P-44 174
Jelena Čanji Panić T3-P-17 142
Jelena Dodić T2-P-24 116
Jelena Dodić T2-P-25 117
Jelena Đorđević T1-P-21 50
Jelena Đorđević T3-P-19 144
Jelena Jocković T4-P-11 222
Jelena Jovičić Bata T3-P-17 142
Jelena Karan T3-P-11 135
Jelena Karan T3-P-25 152
Jelena Karan T3-P-47 178
Jelena Krulj T2-P-7 97
Jelena Krulj T2-P-8 98
Jelena Krulj T3-P-37 166
Jelena Krulj T4-P-4 214
Jelena Kukić-Marković T4-P-17 229
Jelena Marković Filipović T3-P-11 135
Jelena Marković Filipović T3-P-13 137
Jelena Marković Filipović T3-P-25 152
Jelena Marković Filipović T3-P-47 178
Jelena Milovanović T1-P-21 50
Jelena Milovanović T1-P-48 84
Jelena Milovanović T3-P-19 144
Jelena Pejin T2-IL-2 86
Jelena Perović T4-P-4 214
Jelena Purać T3-P-7 131
Jelena Purać T3-P-8 132
Jelena Rodić T2-P-10 100
Jelena Tomić T4-P-21 233
Jelena Tomić T4-P-22 234
Jelena Trajković T1-P-4 29
Jelena Trajković T1-P-5 30
Jelena Vulinović T1-P-2 27
Jelena Vulinović T1-P-43 78
Jelica Gvozdanović-Varga T4-P-16 227
Jelica Simeunović T4-P-2 212
Jiranan Pattano T3-IL-5 123
Jirapan Satjarak T1-P-20 49
Jovana Ajduković T3-P-46 176
Jovana Ajduković T3-P-46 176
Jovana Ajduković T3-P-48 179
Jovana Ajduković T3-P-49 180
Jovana Ajduković T3-P-66 200
Jovana Degenek T2-P-3 91
Jovana Degenek T2-P-4 92
Jovana Drljaca T3-P-18 143

Jovana Drljača T3-P-45 175
Jovana Grahovac T2-P-12 102
Jovana Grahovac T2-P-13 104
Jovana Grahovac T2-P-21 112
Jovana Grahovac T2-P-24 116
Jovana Gucunski T2-P-11 101
Jovana Kojić T2-P-7 97
Jovana Kojić T2-P-8 98
Jovana Kojić T4-P-4 214
Jovana Kos T4-P-27 240
Jovana Kos T4-P-28 241
Jovana Ljujić T4-P-17 229
Jovana Marković T2-P-5 94
Jovana Pantelić T4-P-10 221
Jovana Sekulić T1-P-8 34
Jovana Sekulić T1-P-9 35
Jovan K. Popović T3-P-39 169
Jovan K. Popović T3-P-51 182
Julia Durek, Shikha Ojha T4-IL-7 209
Jutarut lewkittayakorn T2-P-2 90

K

Kamonnut Singkhamanan T3-P-9 133
Kannika Preedaphol T1-P-20 49
Kanuengnit Wayo, Sara Bumrungsri T1-IL-2 20
Karun Thongprajukaew T1-P-20 49
Karun Thongprajukaew T1-P-39 73
Katarina Bijelić T3-P-38 167
Katarina Bijelić T3-P-59 191
Katarina Bijelić T4-P-31 245
Katarina Ivanović T1-P-32 65
Katarina Kanurić T2-P-3 91
Katarina Kanurić T2-P-4 92
Katarina Simić T4-P-17 229
Keerati Kullawanichaiyanan T1-P-14 41
Kertész Attila PL7 18
Kesara Nittayaboon T3-P-20 146
Khushboo Matwani PL3 14
Komwit Surachat T2-IL-1 86
Komwit Surachat T3-IL-5 123
Komwit Surachat T3-P-9 133
Kondić-Špika Ankica PL7 18
Kongpop Jeenkeawpiam T3-P-9 133
Konstantina Tentzidou T3-P-21 147
Korrawat Attasopa T1-IL-2 20
Kosta J. Popović T3-P-39 169
Kosta J. Popović T3-P-51 182
Kringpaka Wangkulangkul T1-P-16 44
Kringpaka Wangkulangkul T1-P-17 45
Kringpaka Wangkulangkul T1-P-24 54
Kristina Bekvalac T3-P-54 185
Kristina Pogrmic-Majkic T1-P-11 37
Kristina Pogrmic-Majkic T1-P-12 39
Kristina Pogrmic-Majkic T1-P-38 72
Kristina Pogrmic-Majkic T3-P-15 140
Ksenija Pavlović T3-P-52 183
Ksenija Pavlović T3-P-61 194
Ksenija Radotić T3-P-5 129
Ksenija Radotić T3-P-6 130
Kusonić Dejan T4-P-30 244

L

Lana Zorić T1-P-41 76
Lana Zorić T4-P-11 222
Larisa Đurić T3-P-32 160
Larisa Ilijin T1-P-30 63
Larisa Ilijin T1-P-31 64
Larisa Ilijin T1-P-40 75
Larisa Tratnjek T3-P-14 139
Lato Pezo T2-P-8 98
Laura E. Depero T1-P-19 47