



iWc

**1ST INTERNATIONAL
WHEAT CONGRESS**

**July 22nd - 26th, 2019
Saskatoon, Saskatchewan,
Canada**

**ABSTRACT PROCEEDINGS
POSTER PRESENTATIONS**



THEME 1: WHEAT DIVERSITY, EVOLUTION, AND GENETIC RESOURCES

INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES PROJECT: PRESERVATION AND IMPROVEMENT OF ON-FARM DIVERSITY OF CURRENTLY GROWN WHEAT LANDRACES IN AFGHANISTAN, IRAN AND TURKEY	
A. MORGOUNOV, F. OZDEMIR, M. KESER, S. GOLKARI, M. ROUSTAI, R. SHARMA, H. MUMINJANOV, PROF. C. QUALSET	2
WHEAT FUTURE HAS ROOTS IN THE WILD	
Z. PELEG, G. GOLAN, E. HENDEL, N. SCHWARTZ	3
IDENTIFICATION AND EVOLUTION ANALYSIS OF IMPRINTED GENES IN WHEAT	
MM XIN, GH YANG, ZS LIU, KH YU, HR PENG, YY YAO, ZR HU, V ROSSI, ZF NI, QX SUN	4
A COMPARATIVE TRANSCRIPTOME ANALYSIS REVEALS THE EVOLUTION OF THINOPYRUM INTERMEDIUM AND ITS RELATIVES BY FULL-LENGTH RNA-SEQUENCING	
PY XING, YG BAO, HG WANG, XF LI	5
WHEAT DWARFING LINE WITH RHT12 IS A 5AL TERMINAL DELETION LINE	
LH SUN, WL YANG, YF LI, QQ SHAN, XB YE, DZ WANG, K YU, WW LU, PY XIN, Z PEI, XL GUO, DC LIU, JZ SUN, KH ZHAN, JF CHU, AM ZHANG	6
RARE NATURAL VARIATIONS OF NLR AND WTK PROTEINS CONFER BROAD SPECTRUM POWDERY MILDEW RESISTANCE IN CHINESE WHEAT LANDRACES	
Z LIU, P LU, G GUO, J XIE, Q WU, L DONG, M LI, Y CHEN, H ZHANG, P ZHANG, K ZHU, B LI, Q SUN, H LI, M LUO, Y GU	7
NOVEL SOURCES OF RESISTANCE TO ZYMOSEPTORIA TRITICI IN MEDITERRANEAN DURUM WHEAT LANDRACES	
AH YAHYAOUF, S BEN M'BAREK, H BOCKELMAN, C SAINT PIERRE, M LARIBI, R MADARIAGA, D CASTILLO, M NEFZAUI, C ARAAR	8
MULTIPLE DISEASE RESISTANCE IN DERIVATIVES FROM WIDE CROSSES	
GE FEDAK, DA CHI, AL MALIHIPOUR, TO FETCH3, BE MCCALLUM, SY CLOUTIER, KE BOYLE, AL XUE	9
RANDOM MUTAGENESIS: AN OLD TOOL FOR GENERATING NEW DIVERSITY IN WHEAT	
W SPIELMEYER, B FORD, J HYLES, W BUSS, GM ESTAVILLO	10
DIVERSITY AMONG IRANIAN CORE COLLECTION OF BREAD WHEAT LANDRACES UNDER DRYLAND CONDITIONS	
H. HATAMZADEH, R. MOHAMMADI, I. BERNOUSI, S. SINGH, S. GOLKARI	11
BREEDING PROGRESS IN URUGUAYAN WHEAT CULTIVARS OVER THE LAST CENTURY	
K GRAHMANN, H SCHWALM, H QUEHL, A QUINCKE, M QUINCKE	12
DELETION MAPPING AND VERIFICATION OF A HIGH-GRAIN NUMBER PER SPIKE LOCUS FROM AGROPYRON CRISTATUM CHROMOSOME 6P IN COMMON WHEAT	
Z ZHANG, HM HAN, WH LIU, JP ZHANG, SH ZHOU, XM YANG, XQ LI, LH LI	13
MANAGEMENT OF GENETIC RESOURCES FOR MARTONVÁSÁR CEREAL BREEDING	
M. MEGYERI, P. MIKÓ, L. LÁNG, M. MOLNÁR-LÁNG, C. KUTI, G. VIDA	14
THE GLOBAL DURUM WHEAT PANEL: A CORE COLLECTION TO EXCHANGE ALLELES AMONG BREEDERS	
E MAZZUCOTELLI, M MACCAFERRI, AM MASTRANGELO, S XU, J FARIS, M HAYDEN, P TRICKER, H OZKAN, V ECHENIQUE, B STEFFENSON, R KNOX, S UDUPA, F LONGIN, D MARONE, G PETRUZZINO, AA NIANE, P RONCALLO, A AMRI, H BRAUN, K AMMAR, M BAUM, L CATTIVELLI, R TUBEROSA, F BASSI	15
SCREENING OF EUROPEAN WINTER WHEAT CULTIVARS FOR THE HIGHLY EXPRESSED WHEAT BREAD MAKING (WBM) GENE USING PCR MARKER	
M. TIKHONOVA, L. PÖLLUMAA, R. KOPPEL, A. INGVER	16
PRODUCTION AND PHENOTYPIC ANALYSIS OF SYNTHETIC ALLOHEXAPLOID LINES HAVING DURUM WHEAT AND WILD DIPLOID RELATIVE GENOMES	
S TAKUMI, A MICHIKAWA, Y MIKI, S TANAKA, M OKADA, K NAGAKI, K SATO, T IKEDA, K YOSHIDA, Y MATSUOKA	17
USING MACHINE-LEARNING TO EXPLORE THE EVOLUTION OF SEASONAL FLOWERING BEHAVIOUR OF CEREALS.	
B TREVASKIS, S DILLON, SJ NEWMAN, H EAGLES, JE HYLES	18

A WHEAT PROTEIN KINASE GENE TASNRK2.9-5A ASSOCIATED WITH YIELD CONTRIBUTING TRAITS	
S REHMAN, J WANG, X CHANG, X ZHANG, X MAO, R JING.....	19
CHARACTERIZATION OF WILD WHEAT RELATIVES INTROGRESSIVE FORMS	
A. ABUGALIYEVA, K. KOZHAKHMETOV, T. SAVIN, A. MORGOUNOV	20
WHEAT GENETIC VARIATION MAP I UNLOCKS VAST GENETIC DIVERSITY CONCEALED IN WHEAT WILD RELATIVES	
F Lu1,2,3, Z YAO, X ZHAO, Y LI, A BI, J WANG, C YIN, J XU'	21
PRESERVING THE VALUABLE WHEAT LANDRACES CURRENTLY UNDER RAINFED CULTIVATION IN NORTH WEST AND NORTH EAST OF IRAN	
S. GOLKARI, M. ROUSTAI, I. ZADHASAN	22
VALIDATION OF AN UNREDUCED GAMETE TRAIT IN WHEAT DOUBLED HAPLOID PRODUCTION	
W CAO, G HUMPHREYS, L ZHANG, D CAI, G FEDAK, L LANGILLE.....	23
DIVERSITY OF SERBIAN WHEAT VARIETIES BASED ON UPOV-DEFINED CHARACTERISTICS	
S MIKIĆ, M MIROSAVLJEVIĆ, V MOMČILOVIĆ, A KONDIĆ-ŠPIKA, D TRKULJA, LJ BRBAKLIĆ, V TAKAČ	24
DOES HERBICIDE-INDUCED PHYTOTOXICITY OCCUR IN SOUTH AFRICAN WHEAT CULTIVARS	
I HEYNS, H NIENABER	25
GRAINGENES: VISUALIZATION, TOOLS, AND RESOURCES FOR WHEAT	
TZ SEN, VC BLAKE, E YAO, GR LAZO, SL MICHEL	26
WHEAT INFORMATION SYSTEM (WHEATIS): STANDARDIZED DATA DISCOVERY THROUGH A SINGLE PORTAL	
TZ SEN, M CACCAMO, D EDWARDS, H QUESNEVILLE.....	27
GENOME-WIDE NESTED ASSOCIATION MAPPING OF GRAIN YIELD IN AUSTRALIAN ENVIRONMENTS	
M GARCIA, P ECKERMANN, D SANCHEZ, R PONTRE, J EDWARDS, K FORREST, D WONG, M HAYDEN, T CORAM, D MULLAN, D_FLEURY	28
DIVERSITY AMONG WHEAT GENOMES	
NS WATSON-HAIGH, R SUCHECKI, E KALASHYAN, M GARCIA, U BAUMANN	29
PHENOTYPIC VARIATION AND RNA-SEQ-BASED GENOME-WIDE POLYMORPHISMS IN WILD DIPLOID WHEAT RELATIVE AEGILOPS UMBELLULATA	
N KASAZUMI, M OKADA, K YOSHIDA, S TAKUMI.....	30
TAARF4 GENES ARE LINKED TO ROOT GROWTH AND PLANT HEIGHT IN WHEAT	
J WANG, C. LI, X MAO, L LI, X CHANG, X ZHANG, R JING, R WANG.....	31
RELEASE OF HIGH YIELDING, DISEASE RESISTANT AND CLIMATIC RESILIENT WHEAT CULTIVARS FROM CIMMYT GERMPASM FOR THE CHANGING CLIMATIC CONDITIONS OF PAKISTAN	
G AHMAD, K AFRIDI, M ISHAQ, M IMTIAZ.....	32
UTILIZATION OF GENETIC DIVERSITY OF THE CORE COLLECTION OF HEXAPLOID WHEAT ACCESSIONS CONSERVED EX SITU IN THE JAPANESE GENE BANK NBRP-WHEAT	
S NASUDA, M NITTA, M YOSHIOKA, S TAKENAKA	33
GENOTYPE X ENVIRONMENT INTERACTION AND DIVERSITY ANALYSIS FOR SPOT BLOTCH RESISTANCE AND ITS ASSOCIATION WITH YIELD AND YIELD RELATED TRAITS	
JP JAISWAL, D DEEPSHIKHA, R TEWARI, NC GAHTYARI, M KUMAR, P SWATI, A KUMAR, GP SINGH, PK SINGH	34
SPATIAL AND TEMPORAL ADAPTATION OF A WILD EMMER WHEAT POPULATION UNDER CLIMATE CHANGE - A CASE STUDY FOR IN SITU CONSERVATION	
T DAHAN-MEIR, H SELA, C MELAMED-BESSUDO, N AVIVI-RAGOLSKY, A RAZ, M FELDMAN, Y ANIKSTER, AA LEVY	35
A NEW CLASSIFICATION OF THE WHEATS	
M. VAN SLAGEREN	36

TRANSCRIPTOME ANALYSIS IN THE WHEAT CULTIVAR TOROPI IN RESPONSE TO INFECTION WITH PUCCINIA TRITICINA, THE CAUSAL PATHOGEN OF LEAF RUST	
CM ZANELLA, N EREFUL, A CASASSOLA, SP BRAMMER, MS CHAVES, A CAVERZAN, JA MARTINELLI, LA BOYD	37
UNCOVERING POPULATION STRUCTURE IN A COLLECTION OF SPANISH BREAD WHEAT LANDRACES	
M LÓPEZ-FERNÁNDEZ ¹ , L PASCUAL, M RUIZ, E BENAVENTE, JF VAZQUEZ, E GIMENEZ, P GIRALDO	38
CHARACTERIZATION OF WHEAT GENETIC RESOURCES COLLECTED IN TIBETAN PLATEAU OF QINGHAI PROVINCE, CHINA BASED ON BASIC AGRICULTURAL AND BREAD-MAKING RELATED TRAITS	
T SASANUMA, K SAWADA, H TANAKA, K SATO, K TAKATA, M ZHU, C LONG	39
GENOME WIDE ASSOCIATION STUDY OF RESISTANCE TO PSTS2 AND WARRIOR RACES OF STRIPE (YELLOW) RUST IN BREAD WHEAT LANDRACES	
M TEHSEEN ¹ , F TONK, M TOSUN, A AMRI, M YAZBEK, C SANSALONI, Z KEHEL, E KURTULUS, M AHMED, I OZSEVEN, A SHEHADEH, K NAZARI	40
TRANSPOSONS AS AGENTS OF DIVERSITY IN WHEAT	
H GUNDLACH, T LUX, M SPANNAGL, 10 +WHEAT GENOME CONSORTIUM, KF MAYER ¹ , N STEIN, CJ POZNIAK	41
SPANISH DURUM WHEAT LANDRACES PRESENT WIDE DIFERENCES WITH MODERN VARIETIES AT GENOMIC LEVEL	
L PASCUAL, P GIRALDO, M LÓPEZ-FERNÁNDEZ, H PÉREZ-PEÑA, R FITE, E BENAVENTE, JF VAZQUEZ, M RUIZ.....	42
GENETIC BACKGROUND OF AEGILOPS SEED COMPOSITION	
M RAKSZEGI, A LOVEGROVE, P SHEWRY, É DARKÓ, M MOLNÁR-LÁNG, J DOLEZEL, I MOLNÁR	43
GENETIC CONTRIBUTION OF SYNTHETIC HEXAPLOID WHEAT TO CIMMYT SPRING WHEAT GERMPLASM AND BREEDING IMPLICATIONS	
U ROSYARA, M KISHII, T PAYNE, C SANSALONI, R SINGH, H BRAUN, S DREISIGACKER	44
A WIDE COLLECTION OF WILD EMMER ACCESSIONS TO DISCOVER NOVEL RESISTANCE GENES TO YELLOW RUST	
E MAZZUCOTELLI, O MATNY, M MARTIN, B STEFFENSON, P RONCALLO, V ECHENIQUE, E ÇAKIR, F DESIDERIO, D BARABASCHI, R BATTAGLIA, H OZKAN, AM MASTRANGELO, L CATTIVELLI	45
THE T. DICOCCUM ACCESSION MG5323, A USEFUL SOURCE OF RESISTANCE GENES	
F DESIDERIO, D RUBIALES, M MARTIN, O MATNI, B STEFFENSON, R SIMEONE, E MAZZUCOTELLI, G VALÈ, L CATTIVELLI.....	46
GENETIC DIVERSITY AND SELECTIVE SWEEP ANALYSIS OF TETRAPLOID WHEAT POPULATIONS WITH DIFFERENT LEVELS OF DOMESTICATION AND ADAPTATION	
J FIEDLER, Y LIU, S XU, J FARIS, E ELIAS, X LI	47
ALLOPOLYPLOIDIZATION RECONSTRUCTED NEW BALANCE IN COPY NUMBER OF GENE AND TRANSPOSON OF WHEAT A SUBGENOME	
XL SHI, ZX LIU, SS ZHENG, HQ LING	48
DIVERSIFICATION AND UNDERSTANDING OF THE WHEAT B GENOME BY HOMEOLOGOUS RECOMBINATION AND COMPARATIVE GENOME ANALYSIS	
X. CAI, W. ZHANG, M. ZHANG, Y. GYAWALI, X. ZHU, Y. CAO, S. NARAGHI, S. REN, Y. LONG, G. SHI, Q. ZHANG, Q. SUN, G. MA, Z. LIU, C. YAN, S. CHAO, S. XU	49
IDENTIFICATION OF LARGE EFFECT QTL FOR ANther EXTRUSION IN DOUBLED HAPLOID SPRING WHEAT POPULATIONS DEVELOPED FROM IPK-GENEBANK ACCESSIONS	
QH MUQADDASI, A BÖRNER, MS RÖDER	50
INVESTIGATING GENETIC VARIABILITY FOR MINERAL MICRONUTRIENTS IN WHEAT THROUGH INTERSPECIFIC HYBRIDIZATION AND QTL MAPPING OF OLD LANDRACES.	
SK VERMA ¹ , , HS DHALIWAL, J BALK.....	51
COMBINING IMPROVED AROMA, TASTE AND FIBER CONTENT IN A WHEAT POPULATION BASED ON LANDRACES AND MODERN WHEAT CULTIVARS	

C BRABANT, B SCHIERSCHER-VIRET, V VINCENT, D FOSSATI, E BUCHER.....	52
ELIMINATION OF YELLOW PIGMENT GENE TIGHTLY LINKED TO STEM RUST RESISTANCE GENE SR43 DERIVED FROM THINOPYRUM PONTICUM	
Q ZHANG, Y LONG, TL FRIESEN, Y JIN, MN ROUSE, X CAI, L DYKES, SS XU	53
INFLUENCE OF GENOTYPE AND NITROGEN FERTILIZATION ON THE GLUTEN PROTEIN DEVELOPMENT DURING GRAIN FILLING AND RELATIONSHIP TO DOUGH STRENGTH	
D. VAZQUEZ, A. BERGER, M. PRIETO-LINDE, E. JOHANSSON.....	54
EXPLORING GENETIC DIVERSITY OF SELECTED YIELD COMPONENTS THROUGH GENOTYPE BY SEQUENCING	
TA BALOYI, T HLONGOANE, TA OLIPHANT, TJ TSILO	55
THE ROAD TO CHROMOSOME-WIDE ENHANCEMENT OF GENETIC RECOMBINATION IN WHEAT	
DH KOO, B FRIEBE, BS GILL.....	56
UNCOVERING USEFUL VARIABILITY FOR AGRONOMICS AND DISEASE RESISTANCE WITHIN A DIVERSE WHEAT COLLECTION.	
G HUMPHREYS, W CAO, A KALIKILLO, L LANGILLE, MA HENRIQUEZ, B BLACKWELL, G FEDAK, S CLOUTIER.....	57
MEIOSIS-SPECIFIC GENE DISCOVERY IN WHEAT	
Y JIANG, A SHUNMUGAM, C KOH, V BOLLINA, C POZNIAK, A SHARPE, K ROZWADOWSKI, S KAGALE	58
WHEAT POPULATION FOR PURE LINE SELECTION OF USEFUL TRAITS FROM AEGILOPS TAUSCHII	
H TSUJIMOTO, Y GORAFI, J KIM	59
NEW INSIGHTS INTO AEGILOPS TAUSCHII GENETIC DIVERSITY AND MORPHO-PHYSIOLOGICAL VARIATION	
M MAHMOOD, T SHEN, Y GORAFI, Y YAMASAKI, N KAMAL, M ABDELRAHMAN, H IWATA, H TSUJIMOTO	60
APPLICATION MACHINE LEARNING TO CHARACTERIZE MIRNAS IN WHEAT PANGENOME	
H BUDAK, .10 GENOMES PROJECT	61
DIVERSITY ANALYSIS OF WHEAT AND WILD RELATIVES USING THE WHEAT 90K INFINIUM ARRAY	
F. FATIMA, T. EDWARDS, C. HIEBERT, C. MCCARTNEY, B. MCCALLUM, MA HENRIQUEZ, G. HUMPHREYS, W. CAO, G. FEDAK, FM YOU, S. CLOUTIER .	62
 THEME 2: PROTECTING YIELD: RESISTANCE TO BIOTIC AND ABIOTIC STRESSES	
 A STUDY OF TOXA-TSN1 PATHO-SYSTEM FOR SPOT BLOTCH SUSCEPTIBILITY IN INDIAN WHEAT	
S NAVATHE, PS YADAV, R CHAND, VK MISHRA, NK VASISTHA, PK GUPTA, AK JOSHI.....	64
IDENTIFICATION OF 90K ILLUMINA CHIP SNPS ASSOCIATED WITH SPOT BLOTCH RESISTANCE IN SPRING WHEAT (TRITICUM AESTIVUM L.)	
S SINGH, VK MISHRA, RN KHARWAR, R CHAND, N BUDHLAKOTI, DC MISHRA, S KUMAR, AK JOSHI	65
DISSECTING A WHEAT CHROMOSOME IN SEARCH OF A FUSARIUM HEAD BLIGHT SUSCEPTIBILITY FACTOR	
B HALES, A STEED, M LEMMENS, M MOLNAR-LANG, P NICHOLSON	66
PREDICTING THE INCIDENCE AND SEVERITY OF WHEAT APHIDS IN MAJOR WHEAT GROWING ZONES OF INDIA	
A KUMAR, R SHARMA, B SINGH, SD PATIL, CP SRIVASTAVA, GP SINGH, AK JOSHI	67
GGE BILOT ANALYSIS FOR SPOT BLOTCH AND YIELD TRAITS OF WAMI PANEL OF SPRING WHEAT	
RN AHIRWAR, VK MISHRA, R CHAND, N BUDHLAKOTI, DC MISHRA, S KUMAR, RK MALL, AK JOSHI	68
IDENTIFICATION OF NEW SOURCES OF RESISTANCE TO BIOTIC AND ABIOTIC STRESSES AND LINKED KASP MARKER DEVELOPMENT	
S. LIU, C. CHU, J. RUDD, A. IBRAHIM, Q. XUE, X. XU, M. CHEN, S. WANG, R. METZ, C. JOHNSON, J. BAKER, R. DEVKOTA, J. AVILA, K. HUI, S. BAKER, X. LIU.....	69
UNDERSTANDING THE ROLE OF PHYTOHORMONES IN CONTROLLING HEAT-STRESS TOLERANCE DURING POLLEN DEVELOPMENT IN WHEAT	

M DALE, A PHILLIPS, PROF. P HEDDEN, S ADAMS, PROF. Z WILSON, S THOMAS	70
SUMO PROTEASES INCREASE DROUGHT TOLERANCE IN TRANSGENIC WHEAT AND EMS MUTANT LINES	
A BOTHA, M LE ROUX, K KUNERT, C CULLIS	71
FUSARIUM HEAD BLIGHT RESISTANCE IN WHEAT – ITS GENETIC MAKEUP AND IMPLICATIONS FOR RESISTANCE BREEDING	
H BUERSTMAYR, B STEINER, S MICHEL, J MORENO-AMORES, C WAGNER, M BUERSTMAYR	72
HISTONE ACETYLTRANSFERASE GCN5 CONTRIBUTES TO CELL WALL INTEGRITY AND SALT STRESS TOLERANCE BY ALTERING EXPRESSION OF CELLULOSE SYNTHESIS GENES	
M ZHENG, MM XIN, YY YAO, HR PENG, ZF NI, QX SUN, ZR HU	73
COMPARATIVE MAPPING OF RESISTANCE AGAINST COMMON BUNT (TILLETIA TRITICI) AND DWARF BUNT (T. CONTROVERSA) IN THREE WINTER WHEAT POPULATIONS	
AE MUELLNER, B ESHONKULOV, B PACHLER, J HAGENGUTH, D HOLE, H BUERSTMAYR	74
HIGH VOLTAGE ELECTRICAL DISCHARGE - IMPACT ON GERMINATION OF WINTER WHEAT UNDER DROUGHT	
K JUKIĆ, M IŽAKOVIĆ, I Ikić, M MARIČEVIĆ, T MARČEK	75
DEVELOPING A RISK MODEL TO MITIGATE FUSARIUM HEAD BLIGHT IN WESTERN CANADA	
PR BULLOCK, M MKHABELA, L MANAIGRE, T OJO, R PICARD, B ZIESMAN, M HARDING, M HENRIQUEZ	76
QTL MAPPING AND TRANSCRIPTOME ANALYSIS TO IDENTIFY SEPTORIA TRITICI BLOTCH (STB) RESISTANCE GENES IN WINTER WHEAT	
F ODILBEKOV, X HE, R ARMONIENÉ, T HENRIKSSON, PK SINGH, A CHAWADE	77
MOLECULAR MECHANISMS ANALYSIS OF WHEAT UV TOLERANCE	
T WANG, B FENG, F WANG, Z XUZH, X FAN, Q ZHOU	78
MINING OF CIMMYT ELITE BREAD WHEAT GERMPLASM FOR LEAF BLIGHT AND ADULT PLANT RESISTANCE TO LEAF AND STRIPE RUSTS	
JP JAISWAL, D DEEPSHIKHA, R TEWARI, C LATWAL, RP GANGWAR, B VINESH, GP SINGH, PK SINGH	79
PATHOTYPES DETERMINATION OF PUCCINIA STRIIFORMIS F.SP. TRITICI IN IRAN, 2018	
F AFSHARI	80
GENOME-WIDE ASSOCIATION STUDY OF NOVEL QTL ASSOCIATED WITH RESISTANCE TO SPOT BLOTCH IN WHEAT (TRITICUM AESTIVUM) USING GENOTYPING BY SEQUENCING	
U KUMAR, D SINGH, S KUMAR, J POLAND, R SINGH, AK JOSHI, BS TIWARI, M RAHMAN, V TOMAR	81
WATER-SAVING WHEAT: TUNING WATER USE EFFICIENCY AND DROUGHT TOLERANCE USING ABA RECEPTORS	
R MEGA, F ABE, JS KIM, H TSUJIMOTO, J KIKUCHI, M OKAMOTO	82
PRE-VARIETAL -RELEASE TESTING OF PAKISTANI WHEAT ADVANCED LINES FOR STRIPE RUST RESISTANCE	
MU REHMAN, XM CHEN, JI MIRZA, AR RATTU, M IMTIAZ, J AHMAD	83
PYRENOPHORA TRITICI-REPENTIS RACE STRUCTURE IN TUNISIA AND POTENTIAL RESISTANCE SOURCES IN MEDITERRANEAN DURUM WHEAT LANDRACES	
M LARIBI, A YAHYAOUI, PK SINGH, FM GAMBA, S BEN M'BAREK, C SAINT PIERRE, K SASSI	84
THE REGULATION MECHANISM OF ETHYLENE AND ABSCISIC ACID ON PCD IN WHEAT (TRITICUM AESTIVUM L.) ENDOSPERM UNDER DROUGHT STRESS POST ANTHESIS	
C LI, C LI, CY LI, KY FU, RQ ZHANG	85
PHOSPHORUS ALTERS MICRO-STRUCTURAL CHARACTERISTICS OF STARCH GRANULES AND GENE EXPRESSION RELATED TO STARCH BIOSYNTHESIS AND DEGRADATION IN WHEAT GRAIN	
CY LI, RQ ZHANG, C LI, KY FU, C LI	86
EXPLORING AAC TENACIOUS RESISTANCE RESPONSE TO FUSARIUM HEAD BLIGHT USING HIGH THROUGHPUT RNA SEQUENCING	
HS SEIFI, MS SERAJAZARI, MK KAVIANI, NW WILKER, AN NAVABI	87

MOLECULAR AND PHENOTYPIC CHARACTERIZATION OF WHEAT LEAF RUST RESISTANCE GENE LR22B	
B McCallum, C Hiebert, C McCartney.....	88
MITIGATING THE THREAT OF WHEAT BLAST- OPPORTUNITIES AND CHALLENGES	
PK Singh, F Marza, KK Roy, MR Kabir, NC Barma, A Chawade, X He, KA Mottaleb, AK Joshi, RP Singh	89
DEVELOPMENT OF A NECROTROPHIC EFFECTOR-INSENSITIVE GWAS WHEAT PANEL FOR THE DISCOVERY OF NOVEL QTL ASSOCIATED WITH SEPTORIA NODORUM BLOTCH RESISTANCE	
H Phan, K Rybak, E Furuki, E Perez-Wright, R Oliver, KC Tan.....	90
BREEDING AGAINST FUNGAL WHEAT PATHOGENS IN GERMANY - IS THERE SUSTAINED PROGRESS?	
H Zetzsche, A Serfling, F Ordon.....	91
GENOME WIDE STUDIES FOR FROST TOLERANCE IN WHEAT	
D Perovic, B Soleimani, H Lehnert, S Babbent, J Keilwagen, M Koch, FA Arana-Cebalos, Y Chesnokov, T.....	92
PSHENICHNIKOVA, J SCHONDELMAIER, K PILLEN, A BÖRNER, F ORDON	92
BREEDING FOR STRIPE RUST RESISTANCE IN SPRING WHEAT GERMPLASM ADAPTED TO KHYBER PAKHTUNKHWA PROVINCE OF PAKISTAN	
FU KHAN	93
GENOME WIDE ASSOCIATION ANALYSIS TO CHARACTERIZE FUSARIUM HEAD BLIGHT RESISTANCE IN DURUM WHEAT	
W. Zhang, Y. Ruan, R. Knox, S. Berraies, H. Campbell, R. Ragupathy, K. Boyle, B. Polley, M. Henriquez, A. Burt, S.....	94
Kumar, R. Cuthbert, P. Fobert, H. Buerstmayr, R. DePauw	94
DEFINING BREAD WHEAT PLANT MODEL IN RESPONSE TO CHALLENGING DROUGHT THREAT UNDER CLIMATE CHANGE	
S. Bennani, M. Jlibene, W. Tadesse, M. Taghouti, N. Nsarellah, A. Birouk	95
WHOLE-GENOME MAPPING OF QTL CONFERRING ALL-STAGE AND HIGH-TEMPERATURE ADULT-PLANT RESISTANCE TO STRIPE RUST IN SPRING WHEAT LANDRACE PI 181410	
Y. Liu, Y. Qie, M. Wang, X. Li, X. Chen	96
GENOME-WIDE ASSOCIATION STUDY AND QTL MAPPING OF FUSARIUM CROWN ROT RESISTANCE IN CHINESE COMMON WHEAT	
X Yang, Y Pan, Y Ren, F Chen, L Zhao	97
RESEARCH ON WHEAT STRIPE RUST IN ETHIOPIA: ACHIEVEMENTS, CHALLENGES AND FUTURE PERSPECTIVES	
AB HULUKA, F YIRGA, B ABEYO, D HODSON, N BACHA	98
SOLVING THE CRE8 GENE PUZZLE, ONE PAN-GENOME PIECE AT A TIME	
KA LEVIN, MR TUCKER, DE MATHER.....	99
INTEGRATED PHYTOPATHOLOGICAL INTERVENTION OF WHEAT BLAST- A NEW DISEASE IN SOUTH ASIA	
KK Roy, MA Reza, K Mustarin, ME Rahman, MA Hakim, B Anwar, MR Kabir, NC Barma, PK Malaker, PK Singh.....	100
SYNTHETIC HEXAPLOID WHEATS WITH STRIPE RUST RESISTANCE	
K Sandhu, D Singh, R Park.....	101
GENE EXPRESSION DYNAMICS OF THE OBLIGATE FILAMENTOUS PATHOGEN BLUMERIA GRAMINIS AND ITS HOST PLANT AEGILOPS UMBELLULATA UNDER THE FIELD ENVIRONMENTS	
K Yoshida, N Mizoo, S Takumi	102
FIELD BASED PHENOTYPING FOR PHYSIOLOGICAL EVALUATION OF WAMI-SUBSET -POPULATION FOR HEAT TOLERANCE ASSOCIATION	
H Rehman, MP Reynolds	103
SCREENING FOR FHB RESISTANCE IN PRIMARY SYNTHETIC HEXAPLOID WHEAT LINES	
X. He, M. Kishii, P. Singh	104
PHENOTYPING FOR TRAITS ASSOCIATED WITH COLD ACCLIMATION MAINTENANCE IN WINTER WHEAT (TRITICUM AESTIVUM L.)	
R Whaley, M Kaviani, E Lyons, J Colasanti, A Navabi.....	105

RESISTANCE TO WHEAT BLAST AMONG CULTIVARS UNDER GREENHOUSE CONDITIONS	
F. MARZA, R. BUTRÓN, A. MAYDANA, P. SINGH, X. HE	106
WHEAT BLAST: PREVALENCE, EPIDEMIOLOGY, HOST STATUS AND SCREENING OF ELITE GERMPLASM FOR RESISTANCE	
KK ROY, MA REZA, ME RAHMAN, K MUSTARIN, NC BARMA, PK MALAKER, PK SINGH	107
AN ASSESSMENT OF NOVEL YELLOW RUST RESISTANCE LOCI FOR EFFECTIVENESS AND YIELD ASSOCIATION IN A UK WINTER WHEAT BREEDING PROGRAM	
L SLATTER, K GARDNER, N BIRD	108
IMPROVED DNA MARKERS AND ASSESSMENT OF EFFECTIVENESS FOR LEAF RUST RESISTANCE GENE LR70	
CW HIEBERT, BD McCALLUM	109
GENETIC DISSECTION OF DIFFERENTIAL RESPONSE OF GENOTYPES TO NIGHTTIME TEMPERATURE IN SPRING WHEAT	
S SUKUMARAN, M LOPES, M REYNOLDS	110
BREEDING FOR FUSARIUM HEAD BLIGHT RESISTANCE IN SOUTHERN BRAZIL	
P KUHNEM, A SCHÖNHOFEN, O ROSA, F GNOCATO, E MANFROI, A ROSA	111
THE BORLAUG GLOBAL RUST INITIATIVE: 11 YEARS OF WHEAT IMPROVEMENT	
M ACEVEDO, WR COFFMAN, C ARTHUR, L MCCANDLESS, J BAKUM, C KNIGHT	112
FINE MAPPING OF STRIPE RUST ADULT PLANT RESISTANCE GENE YR54	
CAIXIA LAN, SHUNDA LI, BHOJA BASNET, JULIO HUERTA-ESPINO, RAVI P. SINGH, EVANS LAGUDAH	113
MAPPING THE EXPOSURE OF WHEAT TO HIGH TEMPERATURE AND ENVIRONMENTAL DEMAND ACROSS AUSTRALIA	
MF DRECCER, L CLANCY, B ZHENG	114
ROLE OF CYTOSINE METHYLATION IN LR28-MEDIATED LEAF RUST RESISTANCE IN WHEAT EXAMINED USING MSAP AND MEDIP	
G SARIPALLI, C SHARMA, T GAUTAM, K SINGH, N JAIN, P PRASAD, JK ROY, PK SHARMA, KV PRABHU, HS BALYAN, PK GUPTA	115
GENETIC ANALYSIS REVEALS MONOGENIC RESISTANCE TO PUCCINIA GRAMINIS F. SP. TRITICI IN SOUTH AFRICAN WINTER WHEAT VARIETIES	
M CHEMONGES, L HERSELMAN, WH BOSHOF, ZA PRETORIUS	116
ROLE OF H3 HISTONE MODIFICATIONS IN LR28-MEDIATED LEAF RUST RESISTANCE IN WHEAT EXAMINED USING CHIP-QPCR AND CHIP-SEQ	
G SARIPALLI, K SINGH, C SHARMA, S KUMAR, N JAIN, S RAGHUVANSHI, P PRASAD, KV PRABHU, PK SHARMA, HS BALYAN, PK GUPTA	117
ALLELIC VARIATION OF VERNALIZATION GENES AND THEIR ASSOCIATION WITH COLD TOLERANCE	
M. KESER, U. KUCUKOZDEMIR, B. AKIN, A. MORGOUNOV, F. OZDEMIR	118
IMPROVEMENT OF BREAD MAKING QUALITY AND AGRONOMIC TRAITS IN ELITE WHEAT CULTIVARS USING 1RS.1BL RECOMBINANT LINE WITH MARKER ASSISTED BACKCROSS BREEDING	
A SHARMA, P VYAS, I SHEIKH, P CHHUNEJA, R SINGH, K GARG, HS DHALIWAL	119
NOVEL SOURCES OF RESISTANCES TO LEAF, STRIPE AND STEM RUST IN THE BRAZILIAN WHEAT CULTIVAR TOROPI	
SR ROSA, CM ZANELLA, CW HIEBERT, T FETCH, AL BRULE-BABEL, HS RANDHAWA, S SHORTER, SP BRAMMER, LA BOYD, BD McCALLUM	120
GLOBAL TRANSCRIPTOME CHANGES DURING COLD ACCLIMATION IN WHEAT	
Q LI, B BRYNS, J ZOU, B FOWLER	121
IDENTIFICATION OF CANDIDATE GENES FOR LR76 AND YR70 THROUGH A COMBINATION OF CHROMOSOME SORTING AND SEQUENCING	
M BANSAL, N ADAMSKI, PI TOOR, S KAUR, BS GILL, J DOLEZEL, M VALARIK, B KLOCOVÁ, C UAUY, P CHHUNEJA	122
IDENTIFICATION OF QTL ASSOCIATED WITH SHATTERING IN TWO SPRING WHEAT (TRITICUM AESTIVUM L.) POPULATIONS USING HIGH-DENSITY SNP MARKERS	
RE KNOX, FE BOKORE, RD CUTHBERT, HL CAMPBELL, B. MEYER, CJ POZNIAK, CW HIEBERT, CA MCCARTNEY, A. SHARPE, Y. RUAN, RM DEPAUW ...	123

FREQUENCY AND ROLE OF YR78 IN RECENT CIMMYT BREAD WHEAT	
J. HUERTA-ESPINO, L. CRESPO-HERRERA, S. DREISIGACKER, R. SINGH, T. PAYNE.....	124
IDENTIFICATION OF SEEDLING AND ADULT PLANT RUST RESISTANCE IN TRITICUM SPELTA ACCESIONS	
J. HUERTA-ESPINO, L. CRESPO-HERRERA, R. SINGH, T. PAYNE	125
IMPROVING TERMINAL DROUGHT ADAPTATION IN WHEAT BY COMBINING TRAIT PHYSIOLOGY, CROP MODELLING AND GENOME WIDE ASSOCIATION MAPPING	
J CHRISTOPHER, C RICHARD, K CHENU, M CHRISTOPHER, AK BORRELL, L HICKEY	126
DETAILED MAPPING OF GENOMIC REGION CARRYING ADULT PLANT STRIPE RUST RESISTANCE GENE YR75 IN WHEAT	
M KANWAL, H BARIANA, M GESSESE, N QURESHI, M HAYDEN, U BANSAL	127
REVISITNG THE VALUE OF EARLY FUNGICIDE IN WHEAT	
M ASIF, S STRYDHORST, S STRELKOV, A TERRY, M HARDING, D PAULY	128
GENOME-WIDE ASSOCIATION STUDY REVEALS GENOMIC REGIONS CONTROLLING ROOT AND SHOOT TRAITS AT LATE GROWTH STAGES IN WHEAT	
L LI, Z PENG, XG MAO, JY WANG, XP CHANG, M REYNOLDS, RL JING	129
SODIUM TISSUE TOLERANCE IN BREAD WHEAT – DISMISSING THE USUAL CANDIDATES	
C BORJIGIN, RK SCHILLING, J QIU, J BOSE, JC SANCHEZ-FERRERO, PJ ECKERMANN, N WATSON-HAIGH, U BAUMANN, AS PEARSON, SJ ROY	130
CONTRASTING DAILY WATER USE DURING GRAIN FILLING IN WHEAT ACCESSIONS FOLLOWING COMBINED DROUGHT AND HEAT STRESS	
A ELHABTI, D FLEURY, T GARNETT, P TRICKER	131
GENOME WIDE ASSOCIATION MAPPING OF FOUR IMPORTANT AGRONOMIC TRAITS IN WHEAT (TRITICUM AESTIVUM L.) UNDER IRRIGATED AND RAINFED ENVIRONMENTS USING SNP MARKERS	
V GAHLAUT, V JAISWAL, PK MEHAR, PC MISRA, S SINGH, A KILLIAN, AR RAO, HS BALYAN, PK GUPTA	132
WHEAT MITOCHONDRIAL RESPIRATION SHIFTS FROM THE TCA CYCLE TO THE GABA SHUNT UNDER SALT STRESS	
MH CHE-OTHMAN, RJ JACOBY, AH MILLAR, NL TAYLOR.....	133
EXPLORING NEW SOURCE OF RUST RESISTANCE IN THE VAVILOV WHEAT COLLECTION	
Z TADESSE, R LANCE, E MACE, A ASSEFA, D JORDAN, L HICKEY	134
BREEDING STRATEGIES FOR FUSARIUM HEAD BLIGHT RESISTANCE IN DURUM WHEAT	
B STEINER, S MICHEL, M MACCAFERRI, M LEMMENS, R TUBEROSA, H BUERSTMAYR.....	135
IMPROVING AND MAINTAINING WINTER HARDINESS AND FROST TOLERANCE IN BREAD WHEAT BY GENOMIC SELECTION	
S MICHEL, F LOESCHENBERGER, J HELLINGER, V STRASSER, C AMETZ, B PACHLER, E SPARRY, B BUERSTMAYR	136
GENOME-WIDE ASSOCIATION STUDY OF RESISTANCE TO WHEAT STRIPE, LEAF AND STEM RUST IN BREAD WHEAT LANDRACES FROM IRAN, TURKEY, AND AFGHANISTAN	
K NAZARI, M TEHSEEN, E KURTULUS, I OZSEVEN, M YAZBEK, C SANSALONI, Z KEHEL, M DA SILVA, A SHEHADEH, A AMRI	137
TOWARDS ISOLATING THE WHEAT GENE ENHANCING MYCOTOXIN DETOXIFICATION AT THE MAJOR FUSARIUM RESISTANCE QTL FHB1	
B STEINER, S ZIMMERL, J MORENO AMORES, H ŠIMKOVÁ, J BARTOŠ, A CERANIC, R SCHUHMACHER, M LEMMENS, G ADAM, H BUERSTMAYR	138
COMPARISON OF QUANTITATIVE TRAIT LOCI (QTL) ASSOCIATED WITH FUSARIUM HEAD BLIGHT (FHB) RELATED TRAITS ACROSS TWO CANADIAN EASTERN ELITE WINTER WHEAT POPULATIONS	
LT TAMBURIC-LLINCIC, SR BARCELLOS ROSA1,	139
DROUGHT RESPONSES OF HISTORIC CULTIVARS OF WHEAT RELEASED IN INDIA	
J RANE, M MAMRUTHA, P SAWANT, L AHER, NP SINGH.....	140
CHARACTERISING THE TRANSCRIPTOME OF DROUGHT TOLERANT BREAD WHEAT	
R RUSHOLME-PILCHER, M OÑATE GUTIÉRREZ, E CARMO-SILVA, A HALL.....	141

FINE-MAPPING OF QSBM.UBO-2BS, A MAJOR QTL FOR RESISTANCE TO SOIL-BORNE CEREAL MOSAIC VIRUS (SBCMV)	
M BOZZOLI, M BRUSCHI, G SCIARA, D ORMANBEKOVA, S CORNETI, S STEFANELLI, C RATTI, C RUBIES, E GOUNDEMAND, P DEVAUX, D PEROVIC, A GADALETA, M MACCAFERRI, R TUBEROSA.....	142
GENETIC DIVERSITY OF DURUM LANDRACES AND THEIR UTILIZATION FOR THE NDSU DURUM WHEAT BREEDING	
X LI, E SALSAMAN, S HOSSEINIRAD, Y LIU, J FIEDLER, F MANTHEY, E ELIAS.....	143
NEW SOURCES OF RESISTANCE TO FUSARIUM HEAD BLIGHT IN SPRING WHEAT	
L WANG, W ZHANG, K BOYLE, A DIEDERICHSEN, A SHARPE, R KUTCHER.....	144
IDENTIFICATION OF RESISTANCE TO PUCCINIA GRAMINIS IN THE CANADA WESTERN RED SPRING WHEAT CULTIVAR CARBERRY	
FE BOKORE, RE KNOX, RD CUTHBERT, S BERRAIES, T FETCH, A NI'DIAYE, CJ POZNIAK, R DEPAUW, Y RUAN, HL CAMPBELL, B MEYER, A SHARPE	145
ENHANCING APHID RESISTANCE IN CIMMYT'S BREAD WHEAT GERMPLOSM	
LA CRESPO-HERRERA, S DREISIGACKER, J HUERTA-ESPINO, G VELU, RP SINGH.....	146
A CANDIDATE GENE ANALYSIS OF QTLs FOR ROOT GROWTH ANGLE IN DURUM WHEAT	
D ORMANBEKOVA, G SCIARA, M MACCAFERRI, S CORNETI, A DISTELFELD, R TUBEROSA	147
DETECTION OF STEM RUST EFFECTIVE RESISTANCE GENES AND IDENTIFICATION OF RESISTANCE AMONG WHEAT COMMERCIAL CULTIVARS AND CANDIDATE LINES IN IRAN	
A MALHIPOUR, S SAFAVI, E NABATI, G. AHMADI.....	148
MOLECULAR AND AGRONOMIC CHARACTERIZATION OF NEAR ISOGENIC LINES OF DURUM WHEAT CARRYING THE ALIEN RUST RESISTANCE GENES LR19/SR25 OR LR47	
D KTHIRI, C BRIGGS, K AMMAR, CJ POZNIAK.....	149
MAPPING RESISTANCE TO LOOSE SMUT IN SPRING WHEAT (TRITICUM AESTIVUM L.)	
D THAMBUGALA, JG MENZIES, RE KNOX, H CAMPBELL, C MCCARTNEY	150
DISEASE TRAP NURSERY ALLOWS TO IDENTIFY A NEW PUCCINIA STRIIFORMIS RACE IN THE PSTS13 GROUP IN TRITICOSECALE IN CHILE.	
C VERA, I MATUS, C JOBET, C ALFARO, D CASTILLO, R GALDAMEZ, R MADARIAGA.....	151
META-QTL ANALYSIS OF TAN SPOT RESISTANCE IN WHEAT	
Y LIU, E SALSAMAN, J FIEDLER, J FARIS, S XU, Z LIU, X LI.....	152
CHARACTERIZATION AND VALIDATION OF FUSARIUM HEAD BLIGHT RESISTANCE QTL IN AN ELITE DOUBLE HAPLOID WINTER WHEAT CROSS 32C*17/PEREGRINE	
Y LIN, A BRÔLÉ-BABEL, CA MCCARTNEY, MC LOEWEN, G HUMPHREYS	153
IDENTIFICATION OF QUANTITATIVE TRAIT LOCI (QTL) ASSOCIATED WITH FUSARIUM HEAD BLIGHT RESISTANCE IN TWO WINTER WHEAT POPULATIONS	
A NEUPANE, L TAMBURIC-LLINCIC, A BRÔLÉ-BABEL, C MCCARTNEY.....	154
AN EXPERIMENTAL TEST OF THE IMPACTS OF CEREAL LEAF BEETLE (OULEMA MELANOPUS) AND ITS NATURAL ENEMIES ON WHEAT YIELD IN THE CANADIAN PRAIRIES	
HA CATTON, HA CARCAMO, VA HERVET	155
EFFECT OF FUNGICIDE APPLICATION TIMING ON FUSARIUM HEAD BLIGHT IN DURUM WHEAT.	
G SINGH, G HNATOWICH, J WEBBER, W MAY, G PENG, HR KUTCHER	156
CHARACTERIZATION OF A WHEAT BZIP TRANSCRIPTION FACTOR GENE, TABZIP15, INVOLVED IN ENHANCED ABIOTIC STRESSES IN PLANTS	
L ZHANG, X KONG, C BI, J JIA, X LIU, G ZHAO	157
IDENTIFICATION OF STRIPE RUST RESISTANCE IN DURUM WHEAT THROUGH PHENOTYPIC AND MOLECULAR MARKER SCREENING	
SK ALEMU, AB HULUKA, K TESFAYE, C UAUU.....	158
BREEDING OZONE-TOLERANT WHEAT: PROOF OF CONCEPT	

A MASHAHEET, K BURKEY, D MARSHALL	159
OZONE TOLERANCE OF OLD AND MODERN EGYPTIAN WHEAT	
A MASHAHEET, K BURKEY, D MARSHALL	160
VIRULENCE OF STEM RUST PATHOGEN TO WHEAT RESISTANCE GENES SR13, SR14, SR25, SR27, SR28, SR29 AND SR37 IN IRAN	
R ROOHPARVAR, A OMRANI, S AHARIZAD.....	161
VIRULENCE OF PUCCINIA GRAMINIS F. SP. TRITICI TO WHEAT STEM RUST RESISTANCE GENES SR22, SR32, SR33, SR35, SR39 AND SR40	
R ROOHPARVAR, A OMRANI, TG FETCH	162
WIREWORM PESTS IN SPRING WHEAT IN SOUTHERN ALBERTA, CANADA	
HA CATTON, WG VAN HERK	163
CHARACTERIZING AND COMBINING FHB RESISTANCE IN DURUM WHEAT GERMPLASM FROM EUROPEAN AND NORTH AMERICAN BREEDING PROGRAMS	
JK HAILE, A N'DIAYE, S WALKOWIAK, KT NILSEN, H BUERSTMAYR, B STEINER, J LAFFERTY, CJ POZNIAK	164
PROGRESS IN BREEDING EASTERN CANADIAN WINTER WHEAT FOR HIGH YIELD AND FUSARIUM HEAD BLIGHT RESISTANCE	
LT TAMBURIC-ILINCIC	165
INSIGHT INTO CANDIDATE FUSARIUM HEAD BLIGHT RESISTANCE GENES ASSOCIATED WITH A QUANTITATIVE TRAIT LOCUS ON CHROMOSOME 1A OF TRITICUM TURGIDUM SSP. CARTHLICUM	
E SARI, AL CABRAL, B POLLEY, Y TAN, DJ KONKIN, Y HSUEH, KT NILSEN, S WALKOWIAK, JK HAILE, CJ POZNIAK, Y RUAN, RE KNOX, PR FOBERT.....	166
HIGH-DENSITY GENETIC MAPPING OF LEAF SPOT RESISTANCE QUANTITATIVE TRAIT LOCI IN A DURUM WHEAT × T. TURGIDUM SSP. CARTHLICUM POPULATION	
E SARI, RE KNOX, Y RUAN, DJ KONKIN, S BERRAIES, RD CUTHBERT, S KUMAR, S KUMAR, Y HSUEH, Y TAN, PR FOBERT, W_ZHANG, AL CABRAL, HL CAMPBELL, B MAYER, CH SIDEBOTTOM	167
MARKER ASSISTED PYRAMIDING OF STRIPE RUST RESISTANCE GENES YR15 AND YR36 IN BREAD WHEAT VARIETY PBW 550	
GS MAVI, AM ANLEY, H KAUR, P SRIVASTAVA, VS SOHU	168
THE COMPOSITION OF LONG NON-CODING RNAs AND NETWORK ANALYSIS IN TETRAPLOID AND HEXAPLOID WHEAT	
S BIYIKLIOGLU KAYA, HB CAGIRICI, H BUDAK.....	169
INTEGRATION OF PLANT HORMONE AND HEAT PRIMING AND REGULATION OF UBIQUITIN PROTEASOME SYSTEM UNDER HIGH TEMPERATURE STRESS DURING GRAIN FILLING STAGES IN INDIAN BREAD WHEAT	
S BARTHAKUR, P JAISWAL, S ARAMBAM, S KHOMDRAM	170
INCORPORATING GENOME-WIDE ASSOCIATION MAPPING RESULTS INTO GENOMIC PREDICTION MODELS FOR GRAIN YIELD AND YIELD STABILITY IN CIMMYT SPRING BREAD WHEAT	
DM SEHGAL, U ROSYARA, S MONDAL, R SINGH, J POLAND, S DREISIGACKER.....	171
TOWARD THE MOLECULAR CLONING OF A SEPTORIA NODORUM BLOTCH SUSCEPTIBILITY GENE IN DURUM WHEAT	
K RUNNING, S SHARMA, S XU, T FRIESEN, J FARIS.....	172
HIGH-RESOLUTION MAPPING OF THE SEPTORIA NODORUM BLOTCH SUSCEPTIBILITY GENE SNN2 IN WHEAT	
S SENEVIRATNE, T FRIESEN, J FARIS	173
A PUTATIVELY NEW STEM RUST RESISTANCE LOCUS DERIVED FROM OLD KENYAN WHEAT VARIETY	
MS RANDHAWA, S BHAVANI, J HUERTA-ESPINO, P JULIANA, RP SINGH.....	174
IMPROVING DROUGHT RESISTANCE IN BREAD WHEAT	
YG HU, L CHEN.....	175
BRAZILIAN TRIALS NETWORK FOR THE CONTROL OF FUSARIUM HEAD BLIGHT AND WHEAT BLAST	
F SANTANA, D LAU, JL MACIEL.....	176

UTILIZATION OF FUSARIUM HEAD BLIGHT RESISTANCE QTLS FROM LANDRACE ‘WANGSHUIBAI’ FOR RESISTANCE IMPROVEMENT IN DIFFERENT GENETIC BACKGROUNDS	
YD ZHANG, LY HUANG, GQ LI, SL XUE, ZX KONG, HY JIA, ZQ MA	177
OPTIMIZING WHEAT MANAGEMENT UNDER DRY ENVIRONMENTS: A CASE STUDY IN THE WEST PAMPAS OF ARGENTINA	
S ALVAREZ PRADO1, A GASTALDI, JA ARDUINI3, DJ MIRALLES1,	178
EVALUATION AND PRECISE MAPPING OF QFHB.NAU-2B CONFERRING RESISTANCE AGAINST FUSARIUM INFECTION AND SPREAD WITHIN SPIKES IN WHEAT (TRITICUM AESTIVUM L.)	
GQ LI, LY JIA, JY ZHOU, HY JIA, ZQ MA	179
POSSIBILITIES IN GERMANY TO PROTECT WINTER WHEAT YIELD BY INNOVATIONS AGAINST BIOTIC STRESS.	
P BLAISE, K HOLM-MUELLER.....	180
GENOMIC SELECTION AND SPEED BREEDING FOR SEPTORIA TRITICI BLOTCH RESISTANCE IN WINTER WHEAT	
AR RIAZ, SB STEPHEN, JC COCKRAM, EM MULLINS	181
DEVELOPING NEXT-GENERATION FUNGICIDES TO CONTROL FUSARIUM HEAD BLIGHT	
M DJAVAHERI, T BENDER, K GOOZEE, M GELLER, HR KUTCHER, G SUBRAMANIAM, S CLARKE, MH BORHAN, SJ ROBINSON	182
MARKER ASSISTED DEVELOPMENT OF HIGH YIELDING WHEAT COMBINING DISEASE RESISTANCE AND PREMIUM CHAPATTI QUALITY.	
A SHARMA, P SRIVASTAVA, H KAUR, GS MAVI, VS SOHU, NS BAINS, P CHHUNEJA	183
CULTIVATION OF STRIPE RUST RESISTANT WHEAT VARIETIES IS SLOWING DOWN THE OCCURRENCE OF STRIPE RUST EPIDEMICS IN UZBEKISTAN	
R SHARMA, A AMANOV, O AMANOV, Z ZIYAEV, S AMANOV	184
CHARACTERIZATION OF THREE NEW YR9-VIRULENCES OF PUCCINIA STRIIFORMIS F. SP. TRITICI AND IDENTIFICATION OF SOURCES OF RESISTANCE IN INDIAN BREAD WHEAT	
SC BHARDWAJ, OP GANGWAR, GP SINGH, P PRASAD, S KUMAR	185
RESISTANCE TO STEM RUST IN EUROPEAN CEREAL CULTIVARS REVEALED BY RACES OF DIVERSE ORIGIN	
M PATPOUR, AF JUSTESEN, A BERLIN, MS HOVMØLLER	186
A FAST AND HIGH-THROUGHPUT LIQUID CHROMATOGRAPHY TANDEM MASS SPECTROMETRY (LC-MS/MS) BASED DEOXYNIVALENOL (DON) PHENOTYPING ASSAY	
L WANG, D MICHEL, A EL-ANEED, P FOBERT, W ZHANG, Y RUAN, R KUTCHER.....	187
OSMOTIC CHANGES IN WHEAT POST HEADING AND REPRODUCTIVE FROST DAMAGE IN WESTERN AUSTRALIA	
B LESKE, B BIDDULPH, T COLMER	188
IMPROVEMENT OF FHB RESISTANCE IN WHEAT: RESISTANT COMPONENTS, PHENOLOGY AND HEIGHT	
K BOYLE, B YU, A BRÔLÉ-BABEL, G FEDAK, P GAO, Z ROBLEH DJAMA, B POLLEY, R CUTHBERT, H RANDHAWA, R GRAF, W ZHANG, PR FOBERT	189
GENETIC FACTORS AFFECTING FUSARIUM HEAD BLIGHT RESISTANCE IMPROVEMENT AND LINKAGE DRAG FROM INTROGRESSION OF EXOTIC SUMAI 3 ALLELES (INCLUDING FHB1, FHB2, AND FHB5) IN HARD RED SPRING WHEAT	
GS BRAR, AL BRÔLÉ-BABEL, Y RUAN, MA HENRIQUEZ, CJ POZNIAK, HR KUTCHER, PJ HUCL.....	190
GENETIC DIVERSITY AND VARIANT EFFECT ANALYSIS OF TWO IRON TRANSPORTER GENES (NAS2 AND VIT2) AMONG DIVERSE WHEATS	
K THIYAGARAJAN, C SAINT PIERRE, V GOVINDAN, R VALLURU.....	191
GRAIN SIZE AND PROTEIN CONTENT RESPONSE TO LATE HEAT AND DROUGHT STRESS IN WINTER WHEAT LANDRACES IN THE ATLAS MOUNTAINS OF MOROCCO	
A EL-BAOUCHI, M IBRIZ, MS LOPES, M SANCHEZ-GARCIA	192
ALTERNATIVE DWARFING GENES FOR IMPROVING EMERGENCE AND WATER USE EFFICIENCY IN WHEAT UNDER DROUGHT	
HM MAMRUTHA, R CHOUDHARY, R CHATRATH, OP TUTEJA, S SONIA, GP SINGH, M WATT	193

MAPPING FHB2 IN A BACKCROSS-DERIVED POPULATION	
C MCCARTNEY, MA HENRIQUEZ, A BRÔLÉ-BABEL, G FEDAK, D MACÉACHERN, B BLACKWELL.....	194
DETECTION AND EVALUATION OF THE RESIDUAL EFFECT OF DEFEATED STRIPE RUST RESISTANCE GENES (YR GENES) IN WHEAT.	
K NABETANI, HR KUTCHER, K WIEBE, CJ POZNIAK	195
GENETIC STRATEGY FOR DEOXYNIVALENOL REDUCTION IN WHEAT	
JL DE ALMEIDA, DJ TESSMANN, HT ZARATE DO COUTO.....	196
IMPROVED HERBICIDE USE FOR REDUCED WEED BURDEN AND SUSTAINABLE BREAD WHEAT PRODUCTION IN UGANDA	
CB CHEMAYEK, WS WOBIBI, WB WONNIALA, OL OWERE.....	197
CHARACTERIZING STRIPE RUST RESISTANCE IN CIMMYT LINE HUIRIVIS#1	
S BHAVANI, RP SINGH, P ZHANG, J HUERTA, F TOLEDO, M RANDHAWA.....	198
PREPARING FOR THE POTENTIAL EMERGENCE OF WHEAT BLAST IN URUGUAY	
P SILVA, L GAO, S PEREYRA, B LADO, S GERMÁN, M QUINCKE, J POLAND	199
POPULATION GENETICS AND GENOMICS OF WHEAT STRIPE RUST PATHOGEN FROM CANADA	
GS BRAR, B SCHWESSINGER, S ALI, D QUTOB, CJ POZNIAK, HR KUTCHER.....	200
RESISTANCE TO WHEAT STEM RUST IN ANCIENT CULTIVATED TETRAPLOID WHEATS (TRITICUM TURGIDUM L.)	
PD OLIVERA, MN ROUSE, DL KLINDWORTH, Q ZHANG, J ZHANG, SS XU, Y JIN	201
DETECTION OF RACE-SPECIFIC ADULT PLANT RESISTANCE TO STEM RUST IN WHEAT	
E EDAE, J BRIGGS, L PONCE-MOLINA, B GIRMA, B HUNDIE, E HAILU, G WONDERUFAEL, B ABEYO, A BADEBO, P OLIVERA, Y JIN, G CSAR, S BHAVANI, C HIEBERT, MN ROUSE	202
DOUBLE HAPLOID PRODUCTION IN CULTIVATED WHEAT: SELECTION FOR SALT STRESS TOLERANCE	
M. MDARHRI ALAQUI, O. CHLYAH, F. GABOUN, S. CHERKAQUI	203
PATHOGENIC RACES OF WHEAT STRIPE RUST IN CANADA FROM 1984 TO 2018	
K GHANBARNIA, R GOURLIE, E AMUNDSEN, R ABOUKHADDOUR	204
IMPROVED HEAT TOLERANT WHEAT GENOTYPES FOR CENTRAL ASIA	
O. AMANOV, R. SHARMA, A. AMANOV, S. AMANOV, D. JURAEV, T. WALETTAW, M. SANCHEZ-GARCIA, A. MORGOUNOV, M. KESER, M. BAUM.....	205
CHARACTERIZATION OF WHEAT MITOGEN-ACTIVATED PROTEIN KINASE SIGNALLING IN THE FUSARIUM HEAD BLIGHT RESPONSE	
NA FOROUD, Z. LIU, Y. PAN, J. LIU, T. LI, D. GONZÁLEZ-PEÑA FUNDORA, N. THAKOR, A. LAROCHE, D. TULPAN, RK GOYAL.....	206
IDENTIFICATION OF A ROTAMASE HIGHLY INDUCIBLE BY HEAT STRESS TREATMENTS IN WHEAT GRAINS AND GENERATION OF CRISPR-CAS9-INDUCED MUTANTS FOR FUNCTIONAL ANALYSIS	
F. M. CASTILLO, J. CANALES, D. CALDERINI, A. ARENAS-M	207
 THEME 3: WHEAT FUNCTIONALITY, NUTRITION, SAFETY AND HUMAN HEALTH	
DEVELOPMENT OF WHEAT GENOTYPES WITH ENHANCED FE, ZN AND PHYTASE LEVELS AND REDUCED PHYTIC ACID CONTENT	
S RAM, S NARWAL, OP GUPTA, V PANDEY, VK MALIK, R SAINI, T KHANDALE, GP SINGH.....	209
GENOMIC AND FUNCTIONAL ANALYSIS OF GLUTENIN AND GLIADIN GENES IN CHINESE WHEAT	
DW WANG, KP ZHANG, HB JIN, GW LI.....	210
BIO-FORTIFICATION OF WHEAT THROUGH BREEDING AND CROP MANAGEMENT	
J AHMAD, SU REHMAN, Y RAMZAN, M NADEEM, M OWAIS, AU REHMAN, GM SUBHANI, M IMTIAZ.....	211
SCREENING OF WHEAT GERMLASM FOR IDENTIFICATION AND UTILIZATION OF BEST PERFORMER FOR BIOFORTIFICATION	
J AHMAD, M ABDULLAH, M ZULKIFFAL, M HUSSAIN, A JAVED, S SHAMIM, H SHAIR, M OWAIS, A MAHMOOD, M IMTIAZ.....	212

TARGETING GLUTEN STRENGTH: A GXE STUDY ON THE VARIATION AND SWITCH IN RANKING OF CWRS CHECK VARIETIES AND THE UNDERLYING BIOCHEMICAL BASIS	
BX FU, B DUPUIS, K WANG, DW HATCHER, RD CUTHBERT	213
STUDY OF THE CADMIUM DISTRIBUTION INTO DURUM WHEAT GRAIN TISSUES AND PROCESSING FRACTIONS, COMPARISON WITH DEOXYNIVALENOL AS A MYCOTOXIN CONTAMINANT	
MF SAMSON, E CANAGUIER, L OLLIER, C BARRON, V LULLIEN-PELLERIN	214
NOVEL REDUCED-IMMUNOGENICITY WHEAT FOR CELIAC PATIENTS	
S. KASHYAP, M. YANG, S. RUSTGI	215
RELATIONSHIP BETWEEN GRADUAL DELETION OF GROUP-1 CHROMOSOMES AND GLUTENIN EXPRESSION IN COMMON WHEAT	
H TANAKA, S IMANISHI, E UCHIDA, E SHIMIZU	216
IMPROVED ALLELIC ANALYSIS OF WHEAT LOW-MOLECULAR-WEIGHT GLUTENIN SUBUNITS USING AROONA NEAR-ISOGENIC LINES AND A SET OF STANDARD CULTIVARS BY 2-DGE, MS/MS AND RP-HPLC	
JY LEE, YR JANG, SB ALTENBACH, SH LIM	217
AMALGAMATION OF ALEURONE LAYER IN WHEAT FLOUR FOR THE IMPROVEMENT OF END USE NUTRITIONAL QUALITY OF FLAT BREAD	
S SHAMIM, H SHAIR, M TAUSEEF SULTAN, A JAVED, M ABDULLAH, J AHMED, M HUSSAIN, M ABRAR	218
PROTEOMIC ANALYSIS OF WHEAT SEED IN RESPONSE TO LOW NITROGEN AND PHOSPHOROUS STRESS	
MT LABUSCHAGNE, B TOTH, A VAN BILJON	219
THE INTERRELATIONSHIPS OF TEST WEIGHT, KERNEL SIZE DISTRIBUTION AND PROTEIN CONTENT AND THEIR EFFECTS ON MILLING AND PASTA PROCESSING QUALITY OF DURUM WHEAT	
K WANG, BX FU	220
CONDENSED TANNINS IMPROVE WHEAT GLUTEN STRENGTH AND EXPAND POTENTIAL GLUTEN USES	
A GIRARD, J AWIKA'	221
"SUPER SOFT" WHEAT KERNEL TEXTURE--WHERE DOES IT COME FROM?	
CF MORRIS, N KUMAR, MI IBBA, AM KISZONAS, J ORENDAY-ORTIZ	222
DIVERSITY IN GRAIN QUALITY TRAITS AND HIGH AND LOW MOLECULAR WEIGHT GLUTENINS SUBUNITS COMPOSITION OF DURUM WHEAT LANDRACES FROM IRAN AND MEXICO	
N HERNANDEZ-ESPINOSA, T PAYNE, J HUERTA-ESPINO, F CERVANTES, H GONZALEZ-SANTOYO, K AMMAR, C GUZMAN	223
APPLICATION OF THE UNIQUE CAPABILITIES OF MASS SPECTROMETRY IN THE INVESTIGATION OF WHEAT PROTEINS CRITICAL TO END-USE FUNCTIONALITY.	
DW HATCHER, R BACALA, BX FU, R CUTHBERT, L CATO, K CORDOVA	224
RELATIONSHIP BETWEEN RAPID FLOUR CHECK METHOD AND TRADITIONAL ANALYSES FOR WHEAT GLUTEN QUALITY EVALUATION TO BRAZILIAN WHEAT GENOTYPES: A PRELIMINARY STUDY	
MZ DE MIRANDA, PO TATSCH, EM GUARIENTI, MC BASSÓI, MS SILVA, JS SOBRINHO, JN MACIEL, V FRONZA, PL SCHEEREN	225
TOWARDS A MORE FRIENDLY GLUTEN	
E BANCEL, M ALRICH, S BAGNON, M BENIGNA, S DENIS, A CHASSIN, A FAYE, M HEBRAUD, E HEUMEZ, PY DYMARSKI, L HALUPKA, G PAGES, S PERROCHON, MF SAMSON, L RHAZI, B VALLUIS, P GIRAUDEAU, C RAVEL	226
DETECTION AND QUANTIFICATION OF ESSENTIAL PROTEINS IN FROST DAMAGED WHEAT THROUGH MASS SPECTROMETRY.	
DW HATCHER, R BACALA, BX FU, K CORDOVA	227
CONSEQUENCES OF CLIMATE VARIATION ON SWEDISH WHEAT BREAD-MAKING QUALITY	
S LAMA, P VALLENBACK, M KUZMENKOVA, R KUKTAITE	228
COMBINED MUTATIONS IN WHEAT STARCH SYNTHASE IIIA (SSIIIA) GENES	
OE GONZALEZ-NAVARRO, B FAHY, B HAZARD'	229

THEME 4: STRUCTURAL AND FUNCTIONAL GENOMICS

WHEAT MIR9678 AFFECTS SEED GERMINATION BY GENERATING PHASED SIRNAS AND MODULATING ABSCISIC ACID/GIBBERELLIN SIGNALING	
YY YAO, GH GUO, MM XIN, HR PENG, ZR HU, ZF NI, QX SUN	231
WHEAT EMS MUTANT DEVELOPMENT AND ITS APPLICATION IN WHEAT GENE DISCOVERY	
X KONG, L ZHANG, C DONG, D LI, Z XIE, X ZHANG, C XIA, J JIA, X LIU	232
GENOME-WIDE IDENTIFICATION AND EXPRESSION ANALYSIS OF NEW CYTOKININ METABOLIC GENES IN BREAD WHEAT (TRITICUM AESTIVUM L.)	
M SHOAB, WL YANG, QQ SHAN, M SAJJAD, AM ZHANG	233
MAP-BASED CLONING OF SPOT BLOTCH RESISTANCE GENE SB3 IN WHEAT	
P LU, L DONG, J XIE, G GUO, H ZHANG, B LI, K ZHU, P ZHANG, Q WU, Y CHEN, M LI, Y ZHANG, Q SUN, Z LIU	234
RNA-SEQ-BASED BULKED SEGREGANT ANALYSIS OF THE CAUSAL U-GENOME GENE FOR GRASS-CLUMP DWARFISM IN INTERSPECIFIC HYBRIDS BETWEEN TETRAPLOID WHEAT AND WILD WHEAT RELATIVE AEGILOPS UMBELLULATA	
M OKADA, K YOSHIDA, K SATO, S TAKUMI	235
IMPACT OF ARTIFICIAL SELECTION ON HAPLOTYPE DIVERSITY IN HEXAPLOID WHEAT	
J QUIROZ-CHÁVEZ, R RAMÍREZ-GONZÁLEZ, C UAUY	236
GENOME-WIDE MARKER DEVELOPMENT BASED ON RNA SEQUENCING OF LEAF TRANSCRIPTS IN WILD EINKORN WHEAT	
A MICHIKAWA, K YOSHIDA, M OKADA, K SATO, S TAKUMI	237
GENOME-WIDE ANALYSIS OF FAMILY-1 UDP GLYCOSYLTRANSFERASES (UGT) AND IDENTIFICATION OF A NOVEL UGT GENE FOR FHB RESISTANCE IN WHEAT (TRITICUM AESTIVUM L.)	
HY HE, ZX ZHANG, WL WU, JP JIANG, MH MA	238
EXPRESSION ANALYSIS OF MAIN DEVELOPMENTAL GENES IN TWO BREAD WHEAT CULTIVARS AFFECTED BY AMBIENT TEMPERATURE AND PHOTOPERIOD	
T. KISS, J. BÁNYAI, K. BALLA, A. CSEH, Z. BERKI, A. HORVÁTH, M. MAYER, O. VEISZ, I. KARSAI	239
THE DISCOVERY OF THE TANDEM KINASE-PSEUDOKINASE PROTEIN FAMILY INSPIRED BY THE CLONING OF THE WHEAT STRIPE RUST RESISTANCE GENE YR15	
T. FAHIMA ¹ , V. KLYMIUK ¹ , A. FATIUKHA ¹ ,	240
DYNAMICS OF DNA METHYLATIONS IN SYNTHETIC ALLOTETRAPLOID WHEAT	
W Guo	241
CAUSE OR CORRELATION? THE CHOICE IS YOURS WHEN CONSTRUCTING GENE REGULATORY NETWORKS	
AE BACKHAUS, SA HARRINGTON, S GRIFFITHS, W HAERTY, RJ MORRIS, C UAUY	242
HIGH-QUALITY QUANTIFICATION OF HOMEOLOGS USING SUBGENOME-CLASSIFICATION BIOINFORMATIC WORKFLOWS MOD	
KK SHIMIZU, T KUO, J SESE, M HATAKEYAMA, T TAMESHIGE	243
IDENTIFICATION OF A NEW VARIATION IN Q GENE CONTROLLING THE PLANT HEIGHT AND SPIKE SHAPE IN COMMON WHEAT (TRITICUM AESTIVUM L.)	
X LIU, X KONG, L ZHANG, C XIA, C DONG, D LI, Z XIE, X ZHANG, J JIA	244
RNA-SEQ-BASED POLYMORPHISMS IN THE SECTION SITOPSIS SPECIES REVEAL THE ORIGIN OF WHEAT B-GENOME CHROMOSOMES	
Y MIKI, K YOSHIDA, K SATO, S TAKUMI	245
ASSOCIATION MAPPING FOR RESISTANCE TO LEAF RUST IN WHEAT (TRITICUM AESTIVUM L.)	
A UR REHMAN, S MUHAMMAD, AI KHAN, A REHMAN, FS AWAN, J AHMAD, N AHMAD, S MUQEET	246

GENOME-WIDE ASSOCIATION MAPPING REVEALS NOVEL QTL HOTSPOTS FOR YIELD AND COMPONENT TRAITS IN BREAD WHEAT (TRITICUM AESTIVUM L.) GROWN UNDER RAINFED AND SUPPLEMENTAL IRRIGATION CONDITIONS	
Z FELLAHI, A HANNACHI, S DREISIGACKER, D SEHGAL, A YAHYAOUI, H BOUZERZOUR, A BENBELKACEM.....	247
THE WHEAT A GENOME AND ITS EVOLUTION	
TRANSCRIPTOMICS OF WINTER WHEAT CULTIVARS AFTER INOCULATION WITH FUSARIUM GRAMINEARUM USING HIGH THROUGHPUT RNA SEQUENCING	
MA HENRIQUEZ, P WALKER, MF BELMONTE, CA MCCARTNEY, BD MCCALLUM, T OUELLET, HS RANDHAWA	249
SERPINS IN BREAD WHEAT: GENOME COMPLEMENT, PHYLOGENY, CLASSIFICATION AND EXPRESSION	
C DONG, J HEJGAARD, T ROBERTS	250
DEVELOPMENT AND UTILIZATION OF THE HIGH DENSITY 660 K SNP GENOTYPING ARRAY AND 55K BREEDING ARRAY IN WHEAT	
GY ZHAO, LF GAO, XY KONG, AM ZHANG, JZ JIA.....	251
NO MAGIC: CHROMOSOME-SCALE SEQUENCE ASSEMBLY OF TRITICEAE GENOMES WITH OPEN-SOURCE SOFTWARE	
M MASCHER	252
THE ACCURATE GENOME SEQUENCES COMBINED WITH THE EXPRESSED PROTEINS DATA FOR THE COMPLETE GRASP OF THE GLIADIN LOCUS, GLI-B2, ON WHEAT CHROMOSOME 6B	
H HANDA, H KANAMORI, K KIZAWA, F KOBAYASHI, T TANAKA, Y ISHIDA, K HAYAKAWA, J WU	253
POLYMORPHISMS OF THE DRF1 GENE ARE ABLE TO DISTINGUISH THE A AND B GENOME COPIES AND TO CLUSTER A COLLECTION OF DURUM WHEAT LINES	
K. AMMAR, C. CANTALE, A. LATINI, P. GALEFFI	254
MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE ALGORITHMS FOR PREDICTING GENES EXPRESSION IN WHEAT USING METHYLATION PATTERNS	
A N'DIAYE, B BYRNS, S ROBINSON, A SHARPE, C POZNIAK	255
FROM NONE TO NUMEROUS! RESEARCH AND BREEDING WHEAT IN THE MULTI GENOME ERA	
G RONEN	256
COMPARATIVE GENOMICS OF AK58 AND CS REVEALS IMPROVEMENT SELECTION IN WHEAT GENOME	
LF GAO, K WANG, GY ZHAO, PC DENG, DQ CUI, ZG RU, JZ JIA	257
HIGH QUALITY REFERENCE GENOME OF MODERN CHINESE VARIETY REVEALS THE IMPACT OF TRANSPOSABLE ELEMENTS ON ORTHOLOGOUS GENE DIVERGENCE AND WHEAT IMPROVEMENT	
JZ JIA, GY ZHAO, LF GAO, K WANG, XQ YAN, PC DENG, YN JIAO, L WU, ZG RU, DQ CUI.....	258
IDENTIFICATION OF A CONSERVED PH1B-MEDIATED 5DS-5BS CROSSING OVER SITE IN SOFT-KERNEL DURUM WHEAT (TRITICUM TURGIDUM SUBSP. DURUM) LINES	
MI IBBA, JD BOEHM JR., AM KISZONAS, M ZHANG, X CAI, CF MORRIS	259
EVOLUTION AND CHARACTERIZATION OF C-PH1 GENE IN POLYPLOID WHEAT	
KS GILL, KS RAWALE, MA KHAN.....	260
LEAF RUST INDUCED, HYPERSENSITIVE-LIKE RESPONSE IN EMS MUTATED WHEAT.	
J. FELLERS	261
CHANGING ASSOCIATIONS BETWEEN WHEAT YIELD, QUALITY AND CLIMATE: IS IT TIME TO ADAPT TRADITIONAL CULTIVATION OF DRYLAND WHEAT IN THE SUMMER RAINFALL REGION OF SOUTH AFRICA?	
RC LINDEQUE, C MILES, W KILIAN	262
ROLE OF RUBISCO ACTIVASE IN HEAT STRESS TOLERANCE IN WHEAT	
K SINGH, R NAGARAJAN, KS GILL.....	263
MINING A SEQUENCE-CONFIGURED WILD WHEAT DIVERSITY PANEL FOR GENES REGULATING ENVIRONMENTAL RESPONSE USING ASSOCIATION GENETICS	

K GAURAV, B WULFF.....	264
CHROMOSOME GENOMICS OF U- AND M-GENOME SPECIES FACILITATE THE PRODUCTION OF CYTOGENETIC MARKERS TO SUPPORT GENE INTROGRESSION FROM AEGILOPS INTO WHEAT	
I. MOLNÁR, J. JUREČKA, M. SAID, A. FARKAS, L. IVANIZS, E. HŘIBOVÁ, J. DOLEŽEL.....	265
SOLVING THE RHT18 ENIGMA	
H. ŠIMKOVÁ, J. VRÁNA, B. FORD, J. DOLEŽEL, W. SPIELMEYER, P. NAVRÁTILOVÁ.....	266
INHIBITION OF AWN DEVELOPMENT BY A ZINC-FINGER TRANSCRIPTIONAL REPRESSOR EXPRESSED AT THE B1 LOCUS IN WHEAT	
JA FEURTADO, D. HUANG, Q. ZHENG, T. MELCHKART, Y. BEKKAOUI, DJ KONKIN, S. KAGALE, M. MARTUCCI, FM YOU, M.....	267
CLARKE, NM ADAMSKI, C. CHINOY, A. STEED, C. MCCARTNEY, P. NICHOLSON, AJ CUTLER.....	267
THE PENTATRICOPEPTIDE REPEAT PROTEIN FAMILY AND FERTILITY RESTORATION IN WHEAT	
J. MELONEK, R. ZHOU, N. STEIN, I. SMALL.....	268

THEME 5: WHEAT IMPROVEMENT: BREEDING, PHYSIOLOGY, ENABLING TECHNOLOGIES

PHENOMIC SELECTION: A LOW-COST AND HIGH-THROUGHPUT ALTERNATIVE TO GENOMIC SELECTION	
R RINCENT, J LE GOUIS, P ROBERT, V SEGURA.....	270
GENOTYPE AND ENVIRONMENTAL EFFECTS ON DURUM WHEAT QUALITY-IMPLICATIONS FOR BREEDING	
M SISSONS, G KADKOL.....	271
HARNESSING CRISPR/CAS-MEDIATED GENOME EDITING FOR RICE AND WHEAT IMPROVEMENT	
THE ROLE OF THE DELLA PROTEIN IN REGULATION OF THE GAMYB IN THE ALEURONE OF WHEAT	
P SOKOLOWSKA, P HEDDEN, A PHILLIPS, Z WILSON, A HUTTLY, S THOMAS.....	273
METABOLIC AND PHYSIOLOGICAL RESPONSES OF WHEAT TO PROGRESSIVE DROUGHT STRESS AT THE FLOWERING STAGE	
M ITAM, S MATSUNAGA, R MEGA, Y YAMASAKI, H TSUJIMOTO.....	274
PROSPECTS AND CHALLENGES TO IMPROVE WHEAT GRAIN YIELD COMPONENTS USING MOLECULAR MARKERS	
J. CHEN, R. WANG, K. ISHAM, J. WHEELER, W. ZHAO, N. KLASSEN.....	275
ACCELERATED BREEDING AND DEPLOYMENT OF COMPETITIVE ZINC-ENHANCED WHEAT TO ACHIEVE SUSTAINABLE FOOD AND NUTRITION SECURITY IN THE DEVELOPING WORLD	
G VELU, R SINGH, J HUERTA, P VIRK, W PFEIFFER, AK JOSHI, C GUZMAN.....	276
GENETIC ENHANCEMENT FOR DROUGHT TOLERANCE FOLLOWING MARKER ASSISTED RECURRENT SELECTION (MARS) IN WHEAT (TRITICUM AESTIVUM L.)	
HARIKRISHNA, GP SINGH, N JAIN, PK SINGH, KV PRABHU.....	277
QUANTITATIVE MAPPING OF PRE-HARVEST SPROUTING (PHS) RESISTANCE LOCI IN CANADA PRAIRIE SPRING WHEAT CULTIVAR AAC TENACIOUS	
R DHARIWAL, C HIEBERT, M SORRELLS, J SINGH, H RANDHAWA.....	278
GENETIC AND TEMPERATURE CONTROL OF LATE-MATURITY ALPHA-AMYLASE (LMA) EXPRESSION IN WHEAT	
A DERKX, J CHEONG, U BAUMANN, D MATHER, D MARES.....	279
HOW TO ADAPT DURUM WHEAT TO CLIMATE CHANGE: G + GXE AGAINST E	
FM BASSI, K EL HASSOUNI, P GUPTA, H KABBAJ, TA SALL, M ZAIM, A AL-ADALLAT, B BELKADI, A FILALI-MALTOUF, V ALARY, A AMRI, R ORTIZ, M BAUM.....	280
A HIGH-PROTEIN WHEAT GERMLASM D34 SUITABLE FOR MAKING CAKES AND BISCUITS	
JF CHAI, CY LI, XY MA, HB WANG.....	281

POPULATION-BASED RECOMBINATION MAPS ESTIMATED WITH TWO DIVERGING EUROPEAN AND ASIAN POPULATIONS ON BREAD WHEAT CHROMOSOME 3B	
A DANGUY DES DÉSERTS, L DUVAUX, P SOURDILLE, S BOUCHET	282
DECIPHERING PHOTOSYNTHETIC, LEAF ANATOMICAL AND SINK TRAITS TO IMPROVE YIELD IN WHEAT	
HM MAMRUTHA, K RINKI, K RAKESH, P ANKITA, K YOGESH, C RAVISH, GP SINGH.....	283
IMPROVING GENOTYPIC PERFORMANCE AND EPIGENETIC DYNAMICS DURING WATER-DEFICIT AND HEAT STRESS IN DURUM	
H LIU, A ABLE, J ABLE	284
EVOLUTION OF PRODUCTIVITY AND GRAIN QUALITY TRAITS IN DURUM WHEAT CULTIVARS IN TUNISIA	
R HAMMAMI, MS GHARBI, JM GONZALEZ, C GUZMAN, B AYEDI, S AYED, K AMMAR.....	285
STRATEGY TO IMPROVE WHEAT YIELD UNDER WATER-LIMITED CONDITIONS: MAXIMIZE WATER SOLUBLE CARBOHYDRATES	
R MUNJAL, K RAM	286
YIELD AND SPIKE FERTILITY IN A HISTORIC SET OF WHEAT CULTIVARS IN RESPONSE TO FROST	
A FERRANTE, CM COSSANI, JA ABLE, VO SADRAS	287
PROSPECTS OF HYBRID WHEAT IN INDIA: AN ANALYSIS BASED ON RECENT EXPERIMENTS	
PK BHATI, BR BASNET, AK JOSHI, M VISHWAKARMA, R SINGH, U KUMAR	288
IMPROVING YIELD COMPONENTS IN TRITICUM AESTIVUM WITH NOVEL QTL/GENES FOR CELL DIVISION AND EXPANSION.	
A MONTEMAYOR LARA, J SIMMONDS, J BRINTON, C UAUY, M REYNOLDS, K AMMAR	289
INCREASING ROOT BIOMASS PRODUCTION IN EUROPEAN WINTER WHEAT FOR IMPROVED DROUGHT-STRESS TOLERANCE AND NITROGEN USE EFFICIENCY	
S VUKASOVIC, M MAKHOUL, C OBERMEIER, K VOSS-FELS, R SNOWDON, A STAHL	290
ALLOPLASMIC LINES OF JAPANESE BREAD WHEAT CULTIVARS WITH AEGILOPS MUTICA CYTOPLASM: THE CYTOPLASMIC EFFECT ON HEADING TIME AND ITS POTENTIAL FOR USE IN BREEDING	
K MURAI, M MATSUMURA.....	291
IMPROVING RADIATION USE EFFICIENCY TO INCREASE YIELD – MODEL-DRIVEN MULTI-DISCIPLINARY GLOBAL RESEARCH TO MEET FUTURE NEEDS	
S ASSENG, P MARTRE, F EWERT, MF DRECCER, BL BERES, M REYNOLDS, HJ BRAUN, P LANGRIDGE, J LE GOUIS, J SALSE, PS BAENZINGER	292
GENETIC IMPROVEMENT OF BREAD WHEAT YIELD AND ASSOCIATED TRAITS IN SOUTHERN PANNONIAN PLAIN	
M MIROSAVLJEVIĆ, V MOMČILOVIĆ, S MIKIĆ	293
BREEDING FOR THE RESISTANCE TO WHEAT FUSARIUM HEAD BLIGHT IN CHINA	
H MA, X ZHANG, J YAO.....	294
EVALUATION AND DISTRIBUTION OF HAPLOTYPES AND COPY NUMBER VARIATION OF PHOTOPERIOD GENES IN CANADIAN WINTER WHEAT	
M KAVIANI, Y CHEN, H SINGH SIDHU, A NAVABI	295
MINING GENES/QTL FOR INCREASING GRAIN WEIGHT IN COMMON WHEAT USING GENOTYPING ARRAYS AND INTROGRESSION LINES	
X LI, AM ZHANG.....	296
MAP-BASED IDENTIFICATION OF EARLINESS GENE PCL1-3B IN A JAPANESE BREEDING LINE “CHOGOKUWASE”	
H NISHIDA, N HAQUE, H SATO, N MIZUNO, M FUJITA, S NASUDA, K KATO	297
RAPID CONSTRUCTION OF SATURATED GENETIC MAPS IN HEXAPLOID WHEAT POPULATIONS USING TARGET AMPLICON SEQUENCING	
G ISHIKAWA, K NAKAMURA, T TANAKA, F KOBAYASHI, M SAITO, H ITO, S IKENAGA, Y TANIGUCHI, T NAKAMURA.....	298
ESTIMATING PLANT HEIGHT USING UNMANNED AERIAL SYSTEMS-BASED IMAGERY AND ASSOCIATION WITH YIELD IN WHEAT (T. AESTIVUM L.)	

V TOMAR, D SINGH, J POLAND, RP SINGH, AK JOSHI, BS TIWARI, U KUMAR	299
DETECTION OF QUANTITATIVE TRAIT LOCI FOR PRE-HARVEST SPROUTING RESISTANCE IN BREAD WHEAT USING A RIL POPULATION	
I. Ikić, B. RAJKOVIĆ, A. LOVRIĆ, H. ŠARČEVIĆ, M. MARIČEVIĆ, Z. ŠATOVIĆ, D. NOVOSELOVIĆ.....	300
GENOME-WIDE ASSOCIATION MAPPING OF EARLY SEEDLING VIGOR AND REGROWTH VIGOR OF WINTER WHEAT	
F MAULANA, W HUANG, JD ANDERSON, XF MA.....	301
INTEGRATING UAS BASED HIGH THROUGHPUT PHENOTYPING SYSTEM INTO A WINTER WHEAT BREEDING PROGRAM	
S BAKER, J RUDD, J JUNG, A CHANG, AM IBRAHIM, B AUVERMANN, J LANDIVAR.....	302
IDENTIFICATION OF QUANTITATIVE TRAIT LOCI CONFERRING RESISTANCE TO PRE-HARVEST SPROUTING IN CANADIAN RED SPRING WHEAT USING HIGH-DENSITY SNP BASED LINKAGE MAP	
M. LITON, M. JORDAN, C. MCCARTNEY, C. HEIBERT, B. AYELE	303
GENOMIC MODELING OF MAJOR AND MINOR ALLELES OF FOUR DURUM WHEAT POPULATIONS UNDER DROUGHT CONDITIONS	
H KABBAJ, M ZAIM, Z KEHEL, G GORJANC, A FILATI-MALTOUF, B BELKADI, R ORTIZ, F BASSI.....	304
IDENTIFYING TRAITS THAT UNDERPIN DARK RESPIRATION TO IMPROVE WHEAT YIELD	
O GAJU, P WILSON, A BOWERMAN, D CULLERNE, C BRYANT, B POSCH, E STROEHER, A PEARSON, M GILLIHAM, N TAYLOR, J BOREVITZ, J EVANS, R FURBANK, G MOLERO, M REYNOLDS, H MILLAR, B POGSON, O ATKIN	305
DISTRIBUTION OF A VRN-A3 ALLELE WITH AN INSERTION IN THE PROMOTER REGION IN WHEAT AND ITS POTENTIAL TO APPLY FOR WHEAT BREEDING.	
K NISHIMURA, H HANDA, N MORI, K KAWAURA, T NAKAZAKI	306
CORRECTION OF WHEAT 660K AND 90K SNP ARRAYS AND GWAS ANALYSIS OF MIXOLAB PARAMETERS IN BREAD WHEAT	
C SUN, G LV, N ZHANG, F CHEN	307
WESTERN CANADIAN WHEAT BREEDING: THE PATH FORWARD	
S KUMAR, R CUTHBERT, R GRAF, H RANDHAWA, Y RUAN	308
CULTIVAR RECOMMENDATIONS OF DURUM WHEAT VARIETIES BASED ON YIELD AND QUALITY MULTI-ENVIRONMENTS TRIALS IN MOROCCO	
M TAGHOUTI, S BENNANI, F GABOUNE, A AMAMOU, G DIRIA, A ROCHDI	309
TACKX GENE FAMILY, AT LARGE, IS ASSOCIATED WITH THOUSAND-GRAIN WEIGHT AND PLANT HEIGHT IN COMMON WHEAT	
M SHOAI, WL YANG, DZ WANG, M SAJJAD, YH SONG, LS SHEN, WY WU, WW LU, MM HAO, X LI, DC LIU, JZ SUN, AM ZHANG.....	310
INTEGRATION OF PATHOLOGY IN FAST TRACK VARIETY DEVELOPMENT, SEED MULTIPLICATION AND PROMOTION IN ETHIOPIA	
B. ABEYO, A. BADEBO, D. HODSON, H. ZEGEYE, W. LEGESSE, M. ROUSE	311
LIGHT-INDUCED FLUORESCENCE TRANSIENT (LIFT) AS A FIELD-BASED HIGH-THROUGHPUT METHOD FOR PHOTOSYNTHESIS PHENOTYPING IN DURUM WHEAT UNDER DROUGHT STRESS	
NZ DOS SANTOS, GE CONDORELLI, EL GROLI, P ANDRADE-SANCHEZ, JT HEUN, M NEWCOMB, R WARD, JW WHITE, F FIORANI, M MACCAFERRI, R TUBEROSA, U RASCHER, O MULLER.....	312
BREEDING EFFECTS ON GRAIN FILLING IN PANNONIAN WINTER WHEAT CULTIVARS	
B JOCKOVIĆ, V MLADENOV, R JEVTIĆ, V AČIN, S ILIN, D ŽIVANČEV, N MLADENOV.....	313
GENETIC DISSECTION OF ANther EXTRUSION IN THE MAGIC-WHEAT POPULATION WM-800	
W. SANNEMANN, L. SCHMIDT, A. LISKER, E. KAZMAN, H. CÖSTER, J. HOLZAPFEL, E. EBMEYER, T. GERJETS, K. PILLEN	314
INTEGRATING GENOMIC SELECTION AND ACCELERATED GENERATION ADVANCEMENT TO IMPROVE GENETIC GAIN IN A WINTER WHEAT BREEDING PROGRAM	
PROWEIZEN – THE GERMAN WHEAT RESEARCH AND BREEDING ALLIANCE	
T GERJETS1.....	316

AN OPTIMIZED 25K WHEAT GENOTYPING ARRAY FOR GENETIC MAPPING, RELATIONSHIP ANALYSIS AND GENOMIC SELECTION	
MW GANAL, A HOHMEYER, MS ROEDER, D PEROVIC, A SERFLING, F ORDON, A POLLEY, J PLIESKE	317
LEAF STOMATAL TRAITS, 13C GRAIN CARBON ISOTOPE DISCRIMINATION AND GRAIN YIELD OF AN ELITE DOUBLE HAPLOID BREAD WHEAT POPULATION UNDER DIFFERENT MOISTURE REGIMES	
J SANGHA, R KNOX, R CUTHBERT, Y RUAN, V KUMARI, S BERRAIES, R SOOLANAYAKANAHALLY	318
IDENTIFICATION AND MAPPING OF LEAF RUST AND POWDERY MILDEW RESISTANCE GENES IN BREAD WHEAT	
F DESIDERIO, S BOURRAS, E MAZZUCOTELLI, D BARABASCHI, D RUBIALES, B KELLER, G VALÈ, L CATTIVELLI	319
QUANTIFYING LODGING PERCENTAGE AND LODGING SEVERITY USING AN UAV BASED CANOPY HEIGHT MODEL COMBINED WITH AN OBJECTIVE THRESHOLD APPROACH	
NO WILKE, BA SIEGMANN, ON MULLER, UW RASCHER.....	320
HYBRID WHEAT IN THE US GREAT PLAINS: HETEROSIS, COMBINING ABILITY AND IMPLICATIONS FOR BREEDING	
A ADHIKARI, A IBRAHIM, PS BAENZIGER, JC RUDD, BR BASNET, A EASTERLY, N GARST, V BELAMKAR	321
MAPPING QUANTITATIVE TRAIT LOCI FOR GRAIN PROTEIN CONCENTRATION IN CANADIAN DURUM WHEAT	
Y RUAN, B YU, R KNOX, W ZHANG, AK SINGH, R CUTHBERT, P FOBERT, R DEPAUW, S BARRAIES, A SHARPE, BX FU, J SANGHA.....	322
BUILDING FIELD-VALIDATED SYSTEMS TO DRIVE THE GENETIC YIELD POTENTIAL IN ELITE WHEAT GERMPLOASM – THE INTERNATIONAL WHEAT YIELD PARTNERSHIP (IWYP)	
C UAUY, M REYNOLDS, J GWYN, M SAWKINS, R FLAVELL.....	323
ACCELERATING THE DEVELOPMENT WHEAT CULTIVARS WITH DESIGNER ROOT SYSTEMS	
C RAMBLA, M MAKHOUL, C OBERMEIER, R SNOWDON, KP VOSS-FELS, LT HICKEY	324
CONTRIBUTION OF PROTEIN TURNOVER TO WHEAT SEED DEVELOPMENT	
H CAO, O DUNCAN, AH MILLAR	325
HIGH YIELDING, LOW LODGING WHEATS: FROM GERMPLOASM AND PHYSIOLOGICAL UNDERSTANDING TO POPULATIONS AND MARKERS	
MF DRECCER, AG CONDON, GJ REBETZKE, B MACDONALD, S SUKUMARAN, V PACCAPELO, CL MCINTYRE.....	326
THE APPLICATION OF FIELD BASED HIGH-THROUGHPUT PHENOTYPING IN A COMMERCIAL WHEAT BREEDING PROGRAMME	
J WALTER, J EDWARDS, J CAI, G McDONALD, T CORAM, S MIKLAVCIC, H KUCHEL'	327
DEVELOPMENT OF KASP MARKERS FOR SELECTION OF INCREASED ROOT BIOMASS IN WHEAT	
M MAKHOUL, K VOSS-FELS, L HICKEY, C OBERMEIER, R SNOWDON	328
EFFECTS OF A PHOTOPERIOD-RESPONSE GENE PPD-D1 ON SPRING WHEAT YIELD PROPERTIES IN HOKKAIDO, JAPAN	
N. ASHIKAGA, Y. YAMASHITA, K. HAYASHI, S. OHNISHI, H. JINNO.....	329
WBM: A GENE LINK TO BREAD MAKING QUALITY IN SOUTH AFRICA WHEAT?	
Y LIU, A MINNAAR-ONTONG, M LABUSCHAGNE	330
BREEDING IMPROVEMENT OF WINTER WHEAT MORPHOTYPE USING INDIRECT METHODS OF GENOTYPE ESTIMATION IN UKRAINE	
V TYSHCHENKO, M BATASHOVA, M DUBENETS	331
THE CHALLENGE OF ASSEMBLING COMPLEX TRAITS FROM ELITE VARIETIES: A LOOK AT PRACTICAL VARIETY DEVELOPMENT IN A SPRING WHEAT DH POPULATION CDC HUGHES/AAC CONCORD	
RD CUTHBERT, FE BOKORE, SB BERRAIES, CJ POZNAK, A N'DIAYE, BX FU, RE KNOX, Y RUAN, MA HENRIQUEZ, S KUMAR, A BURT, R ABOUKHADDOUR, J SANGHA.....	332
DISSECTION, VALIDATION AND FINE MAPPING OF QTL FOR THOUSAND GRAIN WEIGHT ON CHROMOSOMES 4A IN COMMON WHEAT (TRITICUM AESTIVUM L.)	
PF GUAN, YF WANG, MM XIN, ZF NI, QX SUN, HR PENG	333
AGROBACTERIUM-MEDIATED TRANSFORMATION OF TRITICUM SPELTA L. USING MATURE EMBRYOS	

A KYRIIENKO, M PARI, Y SYMONENKO	334
VARIATION IN GRAIN ZINC AND IRON CONCENTRATION, GRAIN YIELD AND ITS ASSOCIATED TRAITS OF BIOFORTIFIED BREAD WHEAT GENOTYPES AT DIFFERENT LOCATIONS OF NEPAL	
D THAPA, M SUBEDI, R YADAV, B JOSHI, B ADHIKARI, K SHRESTHA, P MAGAR, K PANT, S GURUNG, S GHIMIRE, N GAUTAM,	335
N ACHARYA, M SAPKOTA, V MISHRA, A JOSHI, G VELU, R SINGH	335
LASANA-INIA, NEW HIGH YIELD SPRING BREAD WHEAT VARIETY FOR CHILE	
I MATUS, R MADARIAGA, C JOBET, J ZUÑIGA, C ALFARO, D CASTILLO	336
MARKER-ASSISTED PYRAMIDING OF TEN GENES FOR GRAIN QUALITY AND RUST RESISTANCE IN COMMON WHEAT	
T GAUTAM, G SARIPALLI, PK SHARMA, P CHHUNEJA, HS BALYAN, PK GUPTA	337
MAPPING QTLs FOR GRAIN YIELD AND ASSOCIATED TRAITS IN THE MULTI-PARENTAL WHEAT POPULATION WM-800 UNDER DIFFERENT NITROGEN TREATMENTS	
A. LISKER, W. SANNEMANN, A. MAURER, E. KAZMAN, H. CÖSTER, J. HOLZAPFEL, E. EBMAYER, T. GERJETS, K. PILLEN	338
IMPROVEMENT OF QUALITY AND RUST RESISTANCE IN ELITE BREAD WHEAT CULTIVARS WITH 1RSWR.1BL RECOMBINANT LINE USING MARKER ASSISTED BREEDING	
P VYAS, S GARG, A SHARMA, I SHEIKH, S KAUR, HS DHALIWAL	339
DEVELOPMENT OF WHEAT LINES WITH COMPLEX RESISTANCE TO RUSTS AND FUSARIUM HEAD BLIGHT	
A MARÉ, L HERSELMAN, WH BOSHOFF	340
RAISING YIELD POTENTIAL THROUGH IMPROVED HARVEST INDEX AND FRUITING EFFICIENCY ASSOCIATED WITH PLANT HORMONE SIGNALLING IN HIGH BIOMASS CIMMYT SPRING WHEAT GENOTYPES	
B LOVE, A SIERRA GONZALEZ, C RIVERA AMADO, S MUNNES-BOSCH, A BABAR, G MOLERO, M REYNOLDS, J FOULKES	341
UNRAVELLING THE GENETIC CONTROL OF STOMATAL DYNAMICS IN BREAD WHEAT	
M FARALLI, G MELLERS, A SANCHEZ DEL RIO, KA GARDNER, E OBER, A GALLE, J VAN RIE, J COCKRAM, T LAWSON	342
SPIKE PHOTOSYNTHETIC CONTRIBUTION TO GRAIN WEIGHT AND SOURCE-LIMITATION DURING THE GRAIN FILLING STAGE IN UK WHEAT LINES WITH CONTRASTING YIELD COMPONENTS	
M FARALLI, G MELLERS, JD CHADWICK, A OLIVER, A SANCHEZ DEL RIO, KA GARDNER, E OBER, A GALLE, J VAN RIE, J COCKRAM, T LAWSON	343
ASSEMBLING A HIGH-YIELDING GERMPASM PANEL FOR SOUTH AFRICAN WHEAT IMPROVEMENT	
SL SYDENHAM, A BARNARD	344
QUANTITATIVE TRAIT LOCI ASSOCIATED WITH RESISTANCE TO FUSARIUM HEAD BLIGHT IN A CDC HUGHES X AAC CONCORD DERIVED WHEAT POPULATION	
S BERRAIES, RD CUTHBERT, RE KNOX, Y RUAN, MA HENRIQUEZ, A BURT, S KUMAR, CJ POZNIAK, A N'DIAYE	345
WHEAT INDIVIDUAL GRAIN SIZES VARIANCE: SPECIFIC GENETIC DETERMINISM OR INHERITED FROM YIELD COMPONENTS?	
A. BERAL, J. LE GOUIS, C. GIROUSSE, V. ALLARD	346
OPTIMIZING TRAINING POPULATION SIZE TO IMPROVE PREDICTION ACCURACY OF FUSARIUM HEAD BLIGHT TRAITS IN WHEAT	
E ADEYEMO, P BAIGAIN, A SALLAM, J ANDERSON	347
TRACKING THE ADOPTION OF BREAD WHEAT VARIETIES IN AFGHANISTAN USING DNA FINGERPRINTING	
S DREISIGACKER, RK SHARMA, E HUTTNER, A KARIMOV, PK SINGH, C SANSALONI, R SHRESTHA, K SONDER, HJ BRAUN	348
COMPUTATIONAL TOOLS AND RESOURCES TO ACCELERATE WHEAT RESEARCH AND BREEDING	
RH RAMIREZ-GONZALEZ, B GHASEMI-ASHFAR, P BORRILL, N PROVART, G NAAMATI, D BOLSER, B CONTRERAS-MOREIRA, K KRASILEVA, J DUBCOVSKY, R KING, A PHILLIPS, C SCHUDOMA, NM ADAMSKI, P NICHOLSON, B HALES, AK ALABDULLAH, J BRINTON, J CONNORTON, SA HARRINGTON, SK ALEMU, C MARCHAL, O SHORINOLA, J SIMMONDS, M ALAUX, R FLORES, T SEN, C UAUU	349
ROOT DISTRIBUTION IN LANDRACES AND MODERN WHEAT VARIETIES: TILLAGE COMPARISONS AND RELATIONSHIPS TO NUE AND YIELD	
ES OBER, N MORRIS, D CLARKE	350

QUALITY AND MOLECULAR STUDIES ON THE SEMOLINA YELLOWNESS IN WINTER DURUM WHEAT	
G VIDA, M KÁROLYI-CSÉPLŐ, M RAKSZEGI, K PUSKÁS, E VARGA-LÁSZLÓ, O VEISZ	351
ACCURATE, HIGH-THROUGHPUT FIELD-BASED PHENOTYPING FOR HEAT TOLERANCE: A PREREQUISITE FOR EFFECTIVE WHEAT IMPROVEMENT	
R THISTLETHWAITE, S HE, A BOKSHI, D TAN, H DAETWYLER, R TRETOWAN	352
EXTENDING THE FRONTIERS OF GENOMIC SELECTION, TRAIT GENETIC ARCHITECTURE AND GENOMIC FINGERPRINTING IN CIMMYT'S BREAD WHEAT BREEDING PROGRAM	
P JULIANA, J POLAND, J HUERTA-ESPINO, J CROSSA, S SHRESTHA, F TOLEDO, S MONDAL, L CRESPO-HERRERA, V GOVINDAN, U UTTAM KUMAR, S BHAVANI, PK SINGH, M RANDHAWA, X HE, C GUZMAN, S DREISIGACKER, M ROUSE, Y JIN, P PÉREZ-RODRÍGUEZ, O MONTESINOS-LÓPEZ, D SINGH, RP SINGH	353
SPEED BREEDING TECHNOLOGY TO BOOST WHEAT BREEDING AND RESEARCH	
L HICKEY, A WATSON, S GHOSH, B HAYES, K VOSS-FELS, B WULFF	354
HIGH-THROUGHPUT DETERMINATION OF RADIATION USE EFFICIENCY TRAITS TO ACCELERATE WHEAT YIELD POTENTIAL GAINS	
AG CONDON, V SILVA-PEREZ, G ESTAVILLO, RA RICHARDS, J DE FAVERI, RT FURBANK	355
TRITICALE REVEALS BREEDING TARGETS TO ACCELERATE YIELD POTENTIAL GAIN IN BREAD WHEAT	
AG CONDON	356
IMPROVING WHEAT ADAPTATION TO TERMINAL DROUGHT BY COMBINING TRAIT PHYSIOLOGY, CROP MODELLING AND GENOME WIDE ASSOCIATION MAPPING	
JT CHRISTOPHER, C RICHARD, K CHENU, MJ CHRISTOPHER, AK BORRELL, L HICKEY	357
LATE MATURITY A-AMYLASE (LMA) AND ITS IMPLICATIONS FOR WHEAT BREEDING	
W FAIRLIE, J EDWARDS, A DERKX, H KUCHEL	358
PHENOTYPING OF WHEAT GENE BANK ACCESSIONS USING HYPERSPECTRAL REFLECTANCE	
M BRESTIC, M ZIVCAK, L BOTYANSZKA, V BAREK, P HAUPTVOGEL	359
NON-INVASIVE PHENOTYPING OF WHEAT GENOTYPES UNDER LONG-TERM DROUGHT STRESS	
M ZIVCAK, M BRESTIC, L BOTYANSZKA, E CHOVANEC, P HAUPTVOGEL	360
PREDICTING A PATH TO INCREASED GENETIC GAIN USING ARTIFICIAL INTELLIGENCE	
K VOSS-FELS, L HICKEY, S DUNCKEL, B JACOBS, B HAYES	361
HIGH THROUGHPUT 3D MODELLING OF SMALL GRAIN CEREAL SHOOTS TO MEASURE LEAF ELONGATION	
B WARD, C BRIEN, A PEARSON, R SCHILLING, S ROY, M TESTER, B BERGER, A VAN DEN HENGEL	362
INVESTIGATING CONTRADICTION FINDINGS RELATED TO PRODUCTION OF THE PLANT HORMONE AUXIN AND ITS RELATIONSHIP WITH GRAIN WEIGHT IN WHEAT	
MR KABIR, D BACKHOUSE, G WINTER, HM NONHEBEL	363
HIGH RESOLUTION GROWTH ANALYSIS COMBINED WITH HYPERSPECTRAL BASED NUTRIENT ANALYSIS TO UNDERSTAND NITROGEN RESPONSE IN WHEAT	
N STITLINGTON-HANSEN, D PLETT, B BERGER, T GARNETT	364
INTEGRATING PAST, PRESENT AND FUTURE WHEAT RESEARCH WITH PRETZEL	
G KEEBLE-GAGNERE, D ISDALE, R SUCHECKI, A KRUGER, K LOMAS, D CARROLL, S LI, A WHAN, M HAYDEN, J TIBBITS	365
IRAFEN-INIA: A NEW FACULTATIVE BREAD WHEAT CULTIVAR FOR NORTH-CENTRAL CHILE	
C ALFARO, I MATUS, R MADARIAGA, C JOBET, J ZUÑIGA, D CASTILLO	366
GENOMIC SELECTION OF WHEAT QUALITY TRAITS USING SINGLE- AND MULTI-TRAIT MODELS	
PS KRISTENSEN, A JAHOR, JR ANDERSEN, J ORABI, J JENSEN	367
USE OF IMAGING TECHNIQUES FOR PLANT PHENOTYPING AND SELECT DROUGHT TOLERANT SPRING WHEAT GENOTYPES IN TWO CONTRAST ENVIRONMENTS IN CHILE	

D. CASTILLO, R. QUINTANA, I. MATUS, A. DEL POZO	368
ACQUISITION EFFICIENCY OF DIFFERENT WINTER WHEAT GENOTYPES FOR ORGANICALLY BOUND PHOSPHATE	
M HESSLER, J FALK, D STEFFENS	369
INTERROGATION OF MULTI-SEASON YIELD AND YIELD COMPONENT DATA IN A UK ELITE PRE-BREEDING POPULATION	
T BARBER, KA GARDNER, CJ BURT, A BENTLEY	370
GENOMIC REGIONS ASSOCIATED WITH ADAPTATION TO HEAT AND DROUGHT STRESS IN DURUM WHEAT.	
K EL HASSOUNI, S ALAHMAD, A AL-ABDALLAT, M NACHIT, L HICKEY, A FILALI-MALTOUF, B BELKADI, F BASSI.....	371
OPTIMISING QUANTSEQ® FOR REDUCED COST DIFFERENTIAL GENE EXPRESSION ANALYSIS IN COMPLEX POLYPLOID GENOMES	
R RUSHOLME-PILCHER, T BRABBS, LJ GARDINER, A HALL	372
GENOMIC REGIONS ASSOCIATED WITH SPECTRAL INDICES IN CIMMYT SPRING BREAD WHEAT GERMPLASM	
S MONDAL, D SEHGAL, P JULIANA, J POLAND, J HUERTA-ESPINO, RP SINGH.....	373
THE INVOLVEMENT OF ABSCISIC ACID AND GIBBERELLIN IN GERMINATION RESPONSE OF WHEAT SEEDS TO LOW TEMPERATURE	
TN NGUYEN, C IZYDORCZYK, AT PHAM, BT AYELE	374
IS PRE-HARVEST SPROUTING LINKED TO DNA METHYLATION IN SMALL GRAIN CEREALS?	
W CHEN, J SINGH	375
IMPROVING FHB RESISTANCE OF THE CANADIAN WINTER WHEAT WITH GENOMIC SELECTION	
HS SIDHU, M SERAJAZARI, M KAVIANI, CJ POZNIAK, M HAYDEN, A NAVABI.....	376
BREEDING SPRING WHEAT (TRITICUM AESTIVUM L.) FOR EARLY SEASON DROUGHT TOLERANCE	
K KHADKA, M KAVIANI, D TORKAMANEH, F BELZILE, M RAIZADA, A NAVABI.....	377
MULTI-ENVIRONMENTAL GWAS FOR THE DISSECTION AND CHARACTERIZATION OF THE GRAIN YIELD QTLOME IN DURUM WHEAT	
G SCIARA, M MACCAFERRI, J CROSSA, R TUBEROSA	378
GENOMIC SELECTION OF GRAIN YIELD AND QUALITY TRAITS IN THE NDSU DURUM WHEAT BREEDING POPULATION	
E SALSMAN, Y LIU, J FIEDLER, F MANTHEY, E ELIAS, X LI	379
NEW DWARFING GENES TO IMPROVE THE ADAPTATION OF IRRIGATED AND RAINFED WHEATS	
G REBETZKE, T RATHJEN, C INGVEDSEN, K BECHAZ, P HENDRIKS, W BOVILL, D SMITH, N FETTEL.....	380
A STATISTICAL FRAMEWORK TO INCORPORATE HIGH THROUGHPUT PROXY PHENOTYPES IN GENOMIC PREDICTIONS FOR WHEAT BREEDING	
B HAYES, A WATSON, K VOSS-FELS, L HICKEY	381
GENOME WIDE ASSOCIATION STUDY TO IDENTIFY QUANTITATIVE TRAIT LOCI FOR RESISTANCE TO THE ROOT-LESION NEMATODE PRATYLENCHUS NEGLECTUS IN WHEAT	
B SOLEIMANI, H LEHNERT, G CAPISTRANO-GOBMANN, J KEILWAGEN, D PEROVIC, F ORDON, C JUNG	382
VALIDATING CROSS SELECTION THROUGH GENOMIC PREDICTION IN URUGUAYAN NATIONAL WHEAT BREEDING PROGRAM	
M QUINCKE, B. LADO, L. GUTIERREZ	383
VALIDATION OF EXOME CAPTURE SEQUENCE FACILITATED MARKER IMPROVEMENT FOR ERGOT RESISTANCE SCREENING IN DURUM WHEAT	
I PICHÉ, DJ KONKIN, RE KNOX, JG MENZIES, Y RUAN, R CUTHBERT, M POPPY, T COLENUTT, H CAMPBELL	384
INVESTIGATION ON INTRA-SPIKE VARIATION IN PS-II SENSITIVITY TO DESICCATION IN WHEAT (TRITICUM AESTIVUM L.)	
V THAKUR, S TARIA, M KUMAR, G PANDEY, J RANE, NP SINGH.....	385
WHEAT CANOPY ARCHITECTURE – PHYSIOLOGY, GENETIC VARIATION AND IMPACT ON YIELD AND BIOMASS	
R RICHARDS, C CAVANAGH, P RIFFKIN	386
A MAJOR ROOT ARCHITECTURE QTL AFFECTING RESPONSE TO WATER LIMITATION IN DURUM WHEAT	

S ALAHMAD, K EL HASSOUNI, F BASSI, E DINGLASAN, C YOUSSEF, G QUARRY, A ALPASLAN, E MAZZUCOTELLI, A JUHASZ, J ABLE, J CHRISTOPHER, K VOSS-FELS, L HICKEY	387
ASCERTAINMENT OF SELECTION CRITERIA FOR QUALITY TRAITS IN TRITICALE	
GS MAVI, H KAUR, B SINGH	388
CROSS VALIDATION SCHEMES FOR GENOMIC PREDICTION IN MULTIPLE ENVIRONMENTS AND POPULATIONS SITUATIONS	
U ROSYARA, J CROSSA, J BURGUENO, S DREISIGACKER	389
IDENTIFICATION OF QTL FOR YIELD COMPONENTS AND SEED MORPHOLOGY IN THREE DURUM × CULTIVATED EMMER POPULATIONS	
A PETERS HAUGRUD, S XU, J FARIS	390
NESTED LOOP PCR (NL-PCR) FOR AMPLIFICATION OF LARGE DNA FRAGMENTS WITH COMPLEX STRUCTURES IN WHEAT	
Y LONG, Q SUN, B STEURNAGEL, X CAI, JD FARIS, MO HARRIS, BH WULFF, ES LAGUDAH, SS XU	391
LARGE-SCALE IN-FIELD DIGITAL PHENOTYPING REVEALS GENOMIC REGIONS REGULATING DYNAMIC CROP GROWTH IN WHEAT	
D SINGH, V TOMAR, X WANG, U KUMAR, S SHRESTHA, RP SINGH, J POLAND	392
CROSS THE BEST WITH THE BEST? THE IMPACT OF PARENTAL AND CROSS SELECTION ON THE GENETIC GAIN AND VARIANCE	
S MICHEL, F LOESCHENBERGER, C AMETZ, B PACHLER, E SPARRY, H BUERSTMAYR	393
APPLIED PRE-BREEDING IN THE PRIVATE SECTOR	
J LAGE, S KOLLERS	394
GGE BILOT ANALYSIS OF MULTI ENVIRONMENT YIELD TRIALS FORRAINFED WINTERWHEAT IN COLD AND TEMPERATE DRYLAND REGIONS OF IRAN	
M. ROOSTAEI, J. JAFARZADEH, E. ROOHI, M. AHMADI, R. HAGHPARAST, R. RAJABI, GH KHALILZADEH, GH ABEDI-ASL, F. SEIF <i>DRYLAND AGRICULTURAL RESEARCH INSTITUTE (DARI), AREEO, MARAGHEH, IRAN</i>	395
HIGH-THROUGHPUT SNP MARKERS FOR AWN AND GLUME COLOUR IN DURUM WHEAT	
J. CLARKE, F. CLARKE, S. WALKOWIAK, A. N'DIAYE, K. WIEBE, R. KNOX, C. POZNIAK	396
EVALUATION OF SIX ELITE BANGLADESHI WHEAT VARIETIES TOLERANT TO HEAT STRESS IN LATE SOWING	
A HOSSAIN, MSH. MILON, JA TEIXEIRA DA SILVA, DS GAYDON, MAHESH K. GATHALA	397
A QUALITY CONTROL MARKER PANEL FOR SPRING BREAD WHEAT GERMPLASM	398
EXTRACTING ALL POSSIBLE INFORMATION FROM VALUABLE PHENOTYPIC DATA IMPROVES CONSISTENCY IN ASSOCIATION ANALYSIS OF DURUM MILLING TRAITS	
FR CLARKE, JM CLARKE, RE KNOX, KT NILSEN, CJ POZNIAK	399
ANALYSIS OF GLUTEN PROTEIN COMPOSITION IN OLD AND MODERN HARD RED SPRING WHEAT (TRITICUM AESTIVUM L.) VARIETIES FROM CANADA	
MC FLEITAS, P HUCL, M BĀGA, LA DIELEMAN, RN CHIBBAR	400
MINING FUSARIUM HEAD BLIGHT RESISTANCE QTL IN A PANEL OF SYNTHETIC HEXAPLOID-DERIVED WHEAT LINES FROM CIMMYT	
M SERAJAZARI, D TORKAMANEH, HS SIDHU, M KAVIANI, S KAGALE, T PAYNE, A NAVABI	401
ELIMINATING THE LINKAGE DRAG: A NOVEL METHOD FOR TARGETED ALIEN GENE TRANSFER	
KS RAWALE, MA KHAN, KS GILL	402
HIGHER BALANCE BETWEEN N AND WATER DRIVES GENETIC YIELD GAIN IN AUSTRALIAN WHEAT	
CM COSSANI, VO SADRAS	403
MIXSMART PARAMETERS AS POSSIBLE INDICATORS OF BREAD MAKING QUALITY IN WHEAT CULTIVARS ADAPTED TO THE SOUTH AFRICAN DRYLAND SUMMER RAINFALL AREAS	
A VAN BILION, C MILES, M BOOYSE, MT LABUSCHAGNE	404
DEVELOPMENTAL AND YIELD TRAITS IN ELITE WHEAT LINES SELECTED FROM A NAM POPULATION	
PA BASAVARADDI, R SAVIN, S GRIFFITHS, GA SLAFER	405

GENOMIC SELECTION FOR FLOWERING TO OPTIMIZE SPEED BREEDING FOR THE COLD AREAS OF WEST ASIA AND NORTH AFRICA.	
M. SANCHEZ-GARCIA, A EL-BAOUCHI, F ALVARO, E OZER, M KARAMAN, M ROUSTAIL, M JALAL-KAMALI, MS LOPES	406
CHALLENGES AND OPPORTUNITIES IN SPRING WHEAT BREEDING FOR EASTERN CANADA	
AJ BURT, X WANG, A CUMMISKEY, D MAC EACHERN, H VOLDENG	407
GENOMIC SELECTION AND PREDICTION FOR WHEAT BREEDING	
TA HAILE, PJ HUCL, CJ POZNIAK	408
PRE-ANTHESIS SPIKE GROWTH DYNAMICS AND ITS ASSOCIATION TO YIELD COMPONENTS: VARIANCE AMONG ELITE ISRAELI BREAD WHEAT CULTIVARS UNDER THE MEDITERRANEAN CLIMATE	
R ROYCHOWDHURY, O ZILBERMAN, K NASHEF, S ABBO, D BONFIL, R BEN-DAVID	409
DEVELOPMENT OF HIGH YIELDING SYNTHETIC-DERIVED WINTER WHEAT IN TEXAS	
JC RUDD, AM IBRAHIM, Q XUE, S LIU, A GIRARD, J AWIKA	410
READING THE LEAVES: UTILIZING FIELD IMAGERY FOR PHENOTYPING TO ACCELERATE WHEAT BREEDING	
S SHIRTLIFFE, C POZNIAK, H DUDDU, A JOSUTTES, M ERAMIAN, K SINGH, I STAVNESS	411
VARIATION IN TREND OF GRAIN YIELD, GROWTH INDICES, STEM SOLUBLE CARBOHYDRATES AND CANOPY TEMPERATURE IN WINTER AND FACULTATIVE BREAD WHEAT VARIETIES RELEASED DURING 1930-2010 IN IRAN	
M. ESMAEILZADEHMOGHADDAM, N. SHARSODA, B. NAKHODA	412
ADVANCES IN WHEAT TRANSFORMATION	
M MILNER, RM HOWELLS, M CRAZE, S BOWDEN, C SORARU, EJ WALLINGTON	413
CONSTRUCTION AND ANALYSIS OF MEIOTIC GENE CO-EXPRESSION NETWORK IN HEXAPLOID WHEAT (<i>TRITICUM AESTIVUM</i> L.)	
A ALABDULLAH, P BORRILL, AC MARTIN, RH RAMIREZ-GONZALEZ, C UAUJ, P SHAW, G MOORE	414
UNIQUE FLOWERING TIME ALLELES CONTRIBUTE TO ADAPTATION OF WINTER WHEAT TO THE SOUTHEASTERN UNITED STATES	
G. BROWN-GUEDIRA, M. GUEDIRA, M. XIONG, J. SARINELLI, N. DEWITT, D. MARSHALL, J. MURPHY	415
PHENOTYPIC EVALUATION OF POTENTIAL FLORAL TRAITS WITH RELEVANCE FOR HYBRID BREEDING IN WHEAT (<i>TRITICUM AESTIVUM</i> L.)	
S EL HANAFI, N BENDAOU, M SANCHEZ-GARCIA, W TADESSE	416
CAPTURING TRAIT INSIGHTS USING PHENOMICS, CROP MODELS AND STATISTICS TO IMPROVE WHEAT ADAPTATION	
S CHAPMAN, B ZHENG, MF DRECCER, K CHENU, B ABABAEI, E WANG, G REBETZKE, Z ZHAO, Q CHEN, P HU, D BUSTOS-KORTS, F VAN EEUWIJK	417
DETERMINING THE EFFECT OF ALIEN CHROMOSOMES ON RATE OF RECOMBINATION IN DURUM WHEAT	
M KAUR, CJ POZNIAK, GJ SCOLES	418
ALLOPOLYPLIDIZATION RECONSTRUCTED NEW BALANCE IN COPY NUMBER OF GENE AND TRANSPOSON OF WHEAT A SUBGENOME	
XL SHI, ZX LIU, SS ZHENG, HQ LING	419
AN INTEGRATED PRE-BREEDING PROGRAM FOR YIELD IMPROVEMENT	
WC BOTES, A ELLIS, LS HESS	420
QTLs OF BREAD WHEAT (<i>TRITICUM AESTIVUM</i> L.) GROWN UNDER HEAT STRESS ENVIRONMENTS	
AA FARAGALLA, FC OGBONNAYA, OS ABDALLA, A JIGHLY, MF AHMED	421
BIOINFORMATICS AS A TOOL IN WHEAT BREEDING FOR LEAF RUST (<i>PUCCINIA RECONDITA</i> F. SP. TRITICI) AND STRIPE RUST (<i>PUCCINIA STRIIFORMIS</i> F.SP. TRITICI.)	
F. GABOUN, K. RHRIB, M. TAGHOUTI, M. IBRIZ	422
EVALUATING NORDIC WINTER WHEAT GERMPLASM FOR EARLY VIGOUR OF ROOTS AND SHOOTS	
DR KUMAR, MS DELVENTO, DR HENRIKSSON, DR SVENSSON, DR CHAWADE	423
EVALUATION OF FUSARIUM HEAD BLIGHT RESISTANCE IN A CANADIAN WINTER WHEAT DH POPULATION	

M KANG-CHOP, A KALIKILO, M SERAJAZARI, N WILKER, L LANGILLE, A XUE, B BLACKWELL, S CLOUTIER, C MCCARTNEY, A NAVABI, G HUMPHREYS	424
ASSOCIATION GENETICS FOR HEADING DATE, EARLINESS COMPONENTS AND SIMULATION OF PHENOLOGY TO OPTIMIZE HEADING DATE IN CURRENT AND FUTURE CLIMATES	
B ZHENG, M BOGARD, S CHAPMAN	425
PERFORMANCE OF SPRING WHEAT DERIVED FROM PHYSIOLOGICAL STRATEGIC CROSSING UNDER MEXICAN GROWING IRRIGATED ENVIRONMENTS	
FJ PINERA-CHAVEZ, JI ALVARADO-PADILLA, J IRETA-MORENO, J MACIAS-CERVANTES, G CHAVEZ-VILLALBA, D FLORES-MARIN, E SOLIS-MOYA, S SUKUMARAN, G MOLERO, MP REYNOLDS	426
DOES SOLUBLE DRY-MATTER REPRESENT A NET BENEFIT ON YIELD UNDER OPTIMAL GROWING CONDITIONS? A CASE STUDY	
C RIVERA-AMADO, G MOLERO, M REYNOLDS, J FOULKES	427
EXPERIMENTAL EVOLUTION OF WHEAT TO ENHANCE CROP PHOTOSYNTHESIS	
J. FALK, P. WESTHOFF, M. TSANTIS, F. FIORANI, B. PIEPER, S. SCHULZE	428
WHEALBI: WHEAT AND BARLEY LEGACY FOR BREEDING IMPROVEMENT: AN EU PROJECT TO LINK GENOMICS AND AGRONOMY.	
G. CHARMET, N. STEIN, J. RUSSEL, R. WAUGH, L. CATTIVELLI, F. VAN EEUWIJK, B. KELLER, J. LAGE, N. MORRIS, S. CRÉPIEUX, E. LAGENDIJK, C. BONNARD	429
LEVERAGING FIELD PHENOMICS FOR WHEAT IMPROVEMENT	
S. SHIRTLIFFE, T. ZHANG, HS DUDDU, M. WANG, S. RYU, R. BUECKERT, X. GUO, K. STRUBEY, A. JOSUTTES, K. NEILSEN, S. RAJAPAKSA, S. AICH, W. VAN DER KAMP, W. ZHANG, B. YU, C. SIDEBOTTOM, K. STANLEY, M. ERAMIAN, I. STAVNESS, C. POZNIAK, A. SHARPE	430

THEME 6: WHEAT PRODUCTION SYSTEMS: ENVIRONMENT, MANAGEMENT, AND SUSTAINABILITY

IMPACT OF CONSERVATION AGRICULTURE PRACTICES ON INSECT-PEST ABUNDANCE OF RICE-WHEAT CROPPING SYSTEMS IN NORTH WESTERN PLAINS OF INDIA	
P. JASROTIA, G. P. SINGH	432
SUCCEEDING SPRING AND WINTER WHEAT BENEFIT DIFFERENTLY FROM LEGUMINOUS PRE-CROP SPECIES IN ORGANIC CULTIVATION.	
R KOPPEL, A INGVER	433
MANAGEMENT BY FORMATION OF WINTER WHEAT RESISTANT AGROCENOSSES IN THE FOREST-STEPPE OF UKRAINE	
S KALENSKA, N NOVYTSKA, V KALENSKYI, R KOVALENKO, O YEREMENKO, J TASCHEVA, L HONCHAR	434
A NOVEL STATISTICAL INTEGRATED APPROACH TO PREDICT HEAT STRESS HOTSPOTS UNDER CHANGING CLIMATIC SCENARIO – A CASE OF INDIAN WHEAT PRODUCTION	
R SENDHIL, G UTTAM, HM MAMRUTHA, K RINKI, G BALAGANESH, GP SINGH	435
EFFICIENCY OF CULTIVATION IN UKRAINE SPRING AND WINTER FORMS OF TRITICUM AESTIVUM AND TRITICUM DURUM	
S KALENSKA, A ROZKOV, T ANTAL, M FEDORCHYK, O MALEONCHUK, O SHUTIY, L GARBAR	436
LAND USE CONFLICT BETWEEN FARMERS AND HERDSMEN – IMPLICATION FOR WHEAT PRODUCTION AND RURAL DEVELOPMENT IN NIGERIA.	
M OKE	437
THE ISRAELI WHEAT PROJECT: TOWARDS SUSTAINABLE WHEAT PRODUCTIVITY AND GRAIN QUALITY UNDER CLIMATIC INSTABILITY	
DJ BONFIL, D HELMAN, R BEN-DAVID, S ABBO, Y SARANGA, S WOLF, E TAS, Z PELEG, A DISTELFELD, A MOSQUANA, M KOSTYUKOVSKY, N CHAUDHARY, IM LENSKY	438

OPTIMIZING SYSTEMS RESILIENCY ACROSS THE MAJOR CANADIAN ECOZONES	
Y GAN, S STRYDHORST, LD BAINARD, M ENTZ, M KHAKBAZAN, F LARNEY, RL LEMKE, K LIU, N LUPWAYI, A MULENGA, G PENG, G HERNANDEZ-RAMIREZ, G SEMACH, M ST. LUCE, H ASGEDOM-TEDLA, B TIDEMANN	439
EFFECTS OF PEA INTERCROPPING ON DIFFERENT TYPES OF WINTER WHEAT	
P MIKÓ, M MEGYERI, I CSERESNYÉS, T TAKÁCS, G VIDA	440
ROOT PHENOTYPING FOR ENHANCING WHEAT YIELDS IN SOUTH AFRICA	
A BARNARD, SL SYDENHAM, BS WENTZEL.....	441
WINTER WHEAT: A MODEL FOR SUSTAINABLE WHEAT PRODUCTION IN THE GREAT PLAINS	
P THOROUGHGOOD, J DEVRIES, M AKINS.....	442
GENTIC YIELD GAIN IN WHEAT VARIETIES RELEASED IN INDIA EVALAUTED UNDER ZERO TILLAGE AND CONVENTIONAL TILLAGE	
MK VISHWAKARMA, RP SINGH, S MONDAL, PK BHATI, AK JOSHI, U KUMAR.....	443
ESTIMATING THE OPTIMUM SEEDING RATE OF SPRING WHEAT CULTIVARS BASED ON GENETICS, PHENOLOGY AND ENVIRONMENT	
J STANLEY, G MEHRING, J WIERSMA, JK RANSOM	444
INCREASED SOWING DENSITY CANNOT OVERCOME THE YIELD PENALTY ASSOCIATED WITH THE TILLER INHIBITION GENE.	
AL FLETCHER, GJ REBETZKE, G OGDEN, J HENDRY.....	445
RESILIENCE EFFECT ON WHEAT GROWTH MEDIATED BY KODA, 9,10-KETOL-OCTADECADIENOIC ACID EXTRACTED FROM DUCKWEED	
T. BAN	446
RE-EVALUATING NITROGEN RECOMMENDATIONS FOR WHEAT PRODUCTION IN THE SOUTHERN GREAT PLAINS	
C. NEELY, E. KIMURA, K. LEWIS, J. MOWRER, R. SUTTON, D. COKER, D. HATHCOAT, B. GERRISH	447
HISTORICAL CHANGES IN MACRONUTRIENT UPTAKE AND PARTITIONING IN WHEAT AS AFFECTED BY IN-FURROW FERTILIZER	
RE MAEOKA, RP LOLLATO	448
ZINC BIO-FORTIFICATION AND SUSTAINABLE WHEAT PRODUCTIVITY FOR NUTRITIONAL AND FOOD SECURITY	
H RAM, C KAU, GS MAVI, M KAUR, VS SOHU, I CAKMAK.....	449
FACTORS INFLUENCING EMERGENCE RATES OF SPRING WHEAT IN FARMERS' FIELDS IN NORTH DAKOTA	
R BUETOW, JK RANSOM.....	450
THE EFFECTIVENESS OF FOLIAR-APPLIED NITROGEN FOR IMPROVING GRAIN PROTEIN CONTENT IN WHEAT	
MW KIRIKA, J HAYES, D PLETT, S SATIJA, M OKAMOTO	451
MODELLING WINTER CEREAL SURVIVAL: AN ONLINE AND INTERACTIVE SIMULATION TOOL	
B BYRNS, DB FOWLER.....	452
GROWTH AND YIELD DEPENDING ON REGIONAL WHEAT (SAEGEUMGANG WHEAT) SOWING DATES IN KOREA	
J JISEON, B JUNGSOOK, C KUYHWAN, M BYEONGGYU, Y CHANGYONG, H GIHEUNG, K YEONGSIK.....	453
EFFECT OF ELEVATED TEMPERATURE AND NITROGEN INTERACTIONS ON WHEAT YIELD	
CM COSSANI, D COZZOLINO, VO SADRAS	454
INFLUENCE OF TILLAGE AND RESIDUE MANAGEMENT ON PRODUCTIVITY OF MAIZE-WHEAT AND RICE-WHEAT SYSTEMS	
RS CHHOKAR, RK SHARMA, SC GILL, GP SINGH	455
THE USE OF MARKER-ASSISTED SELECTION FOR IMPROVING RUST DISEASE RESISTANCE IN BREAD WHEAT BREEDING IN ALGERIA	
C DJENADI, S YAHIAOUI, H MEAMICHE, M OUAKEI, S UDUPA	456



STUDENT PRESENTATION



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**1ST INTERNATIONAL
WHEAT CONGRESS**

**July 22nd - 26th, 2019
Saskatoon, Saskatchewan,
Canada**

THEME 1

WHEAT DIVERSITY, EVOLUTION, AND GENETIC RESOURCES



DIVERSITY OF SERBIAN WHEAT VARIETIES BASED ON UPOV-DEFINED CHARACTERISTICS**S Mikić¹, M Miroslavljević¹, V Momčilović¹, A Kondić-Špika¹, D Trkulja¹, LJ Brbaklić¹, V Takač¹***¹Institute of Field and Vegetable Crops, Novi Sad, Serbia*

Understanding genetic diversity of wheat germplasm is important for its identification, classification and efficient use in breeding. The aim of this study was to assess genetic diversity of 152 wheat varieties developed at the Institute of Field and Vegetable Crops, Serbia, during the last 50 years, with 15 morphological characteristics based on UPOV (International Union for Protection of New Varieties of Plants) guidelines. The Shannon diversity index was used as an indicator of morphological diversity and it ranged from 0.63, for the seasonal type, to 1.49, for the hairiness on convex surface on the apical rachis segment, with the mean value of 1.10, indicating a high morphological diversity. On average, the diversity was higher for traits relating to generative organs than for those associated with vegetative organs. The 15 morphological characteristics were sufficient to distinguish unique profiles of all 152 wheat varieties. Besides, the estimation of wheat varietal diversity and identification of morphological characteristics with the highest discriminative power were done by homogeneity analysis (HOMALS). The traits that contributed the most to the distinction of varieties were the presence of scurs or awns on ears, shoulder width of lower glumes, beak length of lower glumes and seasonal type. Although the first two dimensions contribute to only 20% of the total variability of categorical data, the methods grouped the varieties with the same categories of the most discriminative traits. Morphological characterization using the traits with the highest discriminative power could be a useful complementary method for comprehensive wheat germplasm classification and diversity analysis.