



Subject Index Vol 23, 2020

- 16S rRNA gene 183
2-chlorobiphenyl 603
ABA 269, 484
ABI five binding protein 171
Abiotic stress 171, 484, 613
Abiotic stresses 164, 951
Accumulation 357
Acetylation 935
Acute toxicity 597
Adaptability/resistance status 851
Adsorption 912
Advanced glycation end products 381
Adzuki bean 235
Aerobic stability 349
Agglutinin 333
Agricultural systems 25
Agricultural waste 899
Agronomic traits 687
Alcaligenes faecalis 183
Alfalfa 1061
Alkali stress 751
Alleles 943
Allelochemicals 522
Alternative to pesticide 431
Amino acid 573
AMMI Biplot analysis 851
Ammoniation pretreatment 899
Amygdalus mira (Koehne) Yü et Lu 333
Anaerobic digestion 899
Anthesis 509
Anthocyanin 501, 549
Anthropogenic activity 644
Antifungal mechanism 405
Anti-glucose repression protein 399
Antioxidant 704
Antioxidant activity 597
Antioxidants 215, 630, 795
Antioxidase activities 54
Antiproliferative effect 597
Aquaporin 786
Arbuscular mycorrhizal fungi 438
Arid areas 438
Aroma 573
Aspartase 131
Aspartic protease 399
Autophagy 704
Auxin response factor 364
Available soil potassium 1107
Average nucleotide identity 1165
Azo-dyes decolorization 241
B. dioica roots 597
B. napus 829
B. juncea 829
Baccaurea 463
Bacillus amyloliquefaciens 405
Bacillus thuringiensis 326
Bacterial abundance 721
Bacterial communities 1051
Bacterial wilt 1136
Banana 541
BAP 541
Barbados nut 771
Basal stem rot 763
Beef cattle 589
Behaviour 409
Bell pepper 795
Bemisia tabaci 838
Biochar 653, 912, 1107
Biochemical 630
Bioconcentration factor 771
Biocontrol 522
Biodegradation 603
Biofortification 295
Bioinformatics analysis 863
Biological additive 349
Biological control 93, 534
Biomarker 279
Biomass 744
Biomass yield 227
Biometric performance 623
Black pine 555
Blackrice 549
Borassus flabellifer 763
Borers resistance 623
Brassica 227
Brassica napus 164
Brassica rapa 205
C. oleifera 777
C:N ratio 889
Ca²⁺ 730
Cadmium 197, 829
Calcareous clay soil 912
Calcium 215
Callose 288
Candidate gene 319
Canine meat 103
Capra sibirica 42
Caprinae 01
Capsicum stems 501
Carbon source 603
Carica papaya 1021
Carotenes 845
Carotenoid 142
Cassava Bacterial Blight 259
Catechins 573
Categorization 227
Cd contents 771
Cell ultrastructure 15
Cellulase 399
Chaetomium spp. 1013
Charcoal rot 851
Chemical composition 49
Chia 951
Chicken mites 135
Chickpea 1101
Chili 93
Chilling stress 919
Chimeric 326
Chinese soft-shelled turtle 529
Chlorophyll 142, 555
Chlorophyll fluorescence 15, 751, 777
Chlorophyll fluorescence index 155
Chlorophylls 845
Chloroplast ultrastructure 777
Chromosome location 637
cis-element analysis 1083
Citrus 1165
CKNP 42
Climate change 644
Clubroot 205
Cluster analysis 311, 943
c-lysozyme 1136
Cocos nucifera 763
Cold 235
Cold resistance 777
Colletotrichum 1165
Community structure 721, 1044
Compensatory growth 882
Compost 295, 373, 1003
Copper 279
Corn 882
Corn silage 253
Corn stalk ensiling 899
Corn straw 970
Correlation 801
Cotton 311, 1083
Cr (VI)-reduction 241
Criniviruses 963

Crop losses 1114
 Crop productivity 744
 Crop rotation 117, 757
 Crude protein 253
 CSSL 927
 Cucumber 515, 757
 Cucumber mosaic virus 146
Cucurbita 613
 Cultivar 117
 Culture medium 135
 Cyst nematode 1095
 Cytochrome C-1 675
 Cytokinin 882
 DAS-ELISA 963
 Date palm 183, 973
 Dates 845
 De-etiolation 801
 Degradability 349
 DEGs 302
 Deproteinized extract of calf
 blood 704
 Desiccation sensitivity 463
 Detection 259
 Diabetic nephropathy 704
 Dieback 1165
 Differentially expressed proteins
 (DEPs) 820
 Disease 1075
 Disease management 93
 Disease resistance 205
 Disinfection 63
 Distribution 357, 438
 Diversity 121, 438, 559
 Drip irrigation 1061
 Drought 215, 509, 786
 Drought stress tolerance 869
 Dryland in southwest China 653
 Drylands 373
 DUS testing 417
 Eco-friendly strategy 431
 Ecological niche 555
 Economic and commercial hybrid
 vigor 983
 Ecosystem services 644
 Effector genes 1021
Elaeis guineensis 763
 Electron shuttles 603
 Endangered species 82
 Endemic shrubs 49
 Endophyte 82, 977
 Endophytic fungi 1044
 Environmental factors 603
 Enzyme activities 109
 Enzymes 919
Eriobotrya japonica 730
Erwinia mallotivora 1021
 Ethanol tolerance 566
Eucalyptus citriodora 93
 Evaluation system 661
 Evolution 951
 Expression 333, 951
 Expression analysis 171, 637
 F₁ diallel hybrids 983
 Fengycin 405
 Fertilization 1141
 Fiber 253
 Fiber degradation 994
 Fiber quality 1158
 Fibertraits 311
 Field bindweed 1114
 First-class spawn 135
 Flavonoid 501
 Flavonol 501
 Flowering; maturity and
 production variables 983
 Flue-cured tobacco 1107
 Flue-cured tobacco 357
 FMDV-O VP1 68
 Food crops 25
 Forecrop 117
 Forest food 644
 Fruit quality 515
 Functional information 302
 Fungal community 757
 Fusarium wilt 1003
Fusarium wilt 515, 1101
 Fusion protein 68
Ganoderma sinense 763
 Gas exchange characteristics 751
 Gas production 994
 GATA transcription factor 637
 GC-MS 597
 Gender equity 25
 Gene duplication 1083
 Gene expression 288, 484, 1083,
 1136
 Gene synthesis 744
 Genetic diversity 1, 675, 1101
 Genetic similarity coefficients 943
 Genetic variation 311, 687
 Genetics 509
 Genome-wide association
 mapping 582
 Genotypic variation 1095
 Germination 87
 Gestation environment 409
Glomus intraradices 786
 Glycine betaine 869, 1121
Glycine max 687
 Glycosylation 675
 GO (Gene Ontology) 820
 Graft inoculation 838
 Grafted plant 1051
 Grain filling 681
 Grain shape 582
 Grain Yield 117, 906, 1141
 Green tea 573
 Greenhouse gases 906
 Group dynamics 42
 Growth 919
 Growth rate 135
 Growth traits 54, 391
 Gut-liver and kidney axis 454
H. multanensis 471
Hadeninae 471
 Halal authentication 103
 Harvesting maturity 253
 Hay yield 1061
 Heat stress 311, 475, 811
 Heavy metal 142
 Hematology 529
 Herb community landscape 661
Heterodera glycines 857
Hevea brasiliensis 763
 Hexavalent chromium 603
 Hibernation 529
 High-throughput sequencing 589,
 737
 Housing system 409
 HSP70 963
 Humic-like substances 970
Hydrilla verticillate 1033
 Hydrolysable tannin 1068
 Hyperaccumulation 829
 Ichneumonidae 423
 Immobilization 131
 Immunosenescence 381
In vitro digestibility 49
 Indian mustard 757
 Indirect ELISA 68
 Induced resistance 109
 Induced systemic resistance 146
 Infectious clone 838
 Inhibition 75, 977
 Inorganic N 912
 Interaction 566
 Intercropping 1075
 Inter-simple sequence repeat 447
 Ion balance 927
 Ion uptake 54
 Ionic modifications 795
 Ions 197
 Iron deficiency 190
 Iron toxicity 190
 Iron uptake 190
 Irrigation 391
 Irrigation water-use efficiency
 771

KEGG (Kyoto Encyclopedia of Genes and Genomes) 820
 Kin recognition 555
 Kinship-promoting type 555
 Lactation environment 409
 Lake dian 559
 L-aspartic acid 131
 Leaching 912
 Leaf morphological 364
 Lepidoptera 471
 Light 801
Lilium pumilum 484
 Liver 279
 LNA probe 259
 Lodging 711
 Low temperature 501
 Low-temperature stress 730
LpNAC 484
Magnaporthe oryzae 1013
 Maize 475, 637, 801, 863
 Maize hybrids 1141
 Maize variety 417
 Maleic anhydride 131
 Malondialdehyde 142
Malus hupehensis Rehd. 1121
 Markhor 01
 MAS 340
 Mass spectrometry 857
 Maternal responsiveness 409
 Mating type 1101, 1129
 Maturation 845
 MDA 630
 Meatballs 103
 Membrane lipid peroxidation 1121
 Metabolic disorders 454
 Metabolizable energy 49
 Metal ions 566
 Metalaxyl sensitivity 1129
 Methane emission 994
 Methylation 935
 Methyltransferases 935
 Metopiinae 423
 Microbes 63
 Microbial diversity 721
 Microorganism 349, 559
 Microsatellites 01
 Mid and better parent hybrid vigor 983
 Millet 1075
 Mineral nutrients 829
 Minimum inhibitory concentration (MIC) 63
 miRNA 589
 MLE 811
 Molasses 253
 Molecular identification 1095
 Molecular marker 319, 340
 Moringa seed cake 994
 mtDNA 1129
 Multi-metal stress 241
 Mung bean 241
 Mungbean; Cercospora leaf spot; ISSR-anchored resistance gene analog 447
 Mycelial growth 75
 Mycorrhiza 786
 N efficient plants 744
 N metabolism 744
 Nanoparticles 1013
 Natural variation 171
 Nematicidal potential 431
 Net income 1141
 New country records 423
 New naturalistic design concept 661
 Nickel 15
Nicotiana benthamiana 838
Nicotiana tabacum 164
 Nitrification inhibitor 906
 Nitrogen accumulation 07
 Nitrogen deficiency 573
 Nitrogen fertilizer 653
 Nitrogen fertilizer 711 Density 711
 NO 730
 Noctuidae 471
 Non-alcoholic fatty liver disease 454
 Non-chemical control 1114
 Non-hibernation 529
 Novel INteractor of JAZ 171
 Noxious weeds 1114
 NR 630
 Number of subcultures 541
 Nutrient uptake 1051
 Nutrients release 889
 Nutritional quality 391
 Nutritional Status 1141
 Nutritional symptom 644
 Oasis 391
 Okra 295
 Organic acid 1033
 Organic amendment 373
 Organic management 1003
 Organic osmolytes 630
Origanum vulgare 1068
Oryza sativa 927
 Osmotic adjustment 54, 927
Ostrya rehderiana Chun 82
 Overexpression 164
 Oxidative damage 801, 811
 Oxidative Stress 454
 Ozone 15
P. brassicae 205
P. nicotianae 75
 Pathogenesis related genes 1021
 Peanut 697, 1075
Peanut bacterial wilt 697
Penicillium expansum 405
Penicillium oxalicum 93
 Periodontist 1068
 PGPB 190, 241
 PGPR strains 869
 PGRs 801
 pH values 1051
 Phenolics 15
 Phenotypic traits 319
 Phenotyping 1149
 Phosphorus 1061
 Phosphorus efficiency 227
 Phosphorylation 675, 935
 Photoperiod 951
 Photosynthesis 364, 811, 1121
 Photosynthetic apparatus 522
 Photosynthetic attributes 155
 Photosynthetic induction 493
 Photosynthetic pigment 142, 197
 Phylogenetic tree 1083
 Phylogenetic tree 82
 Physical and chemical properties 637
 Physiological traits 1158
 Physiology 475
 Phytochemical composition 597
 Phytohormones 951
Phytophthora capsica 534
Phytophthora infestans 1129
 Phytoremediation 771
 Phytotoxicity 241
Pinus densiflora 1044
 Plant diversity 661
 Plant extracts 75
 Plant growth-promoting bacteria (PGPB) 534
 Plant growth-promoting rhizobacteria 1003
 Plant variety protection 417
 Plant weight 155
 Plant yield 515
 Plasma biochemistry 529
 Polymers 68
 Polymorphic Information Content 943
 Polymorphism 935
 Population density 42
 Population structure 1149

Population structuring 01
Porphyromonas gingivalis 1068
 Post-translational modifications 675
 Potassium accumulation value 1107
 Potassium bacteria 1107
 Potassium recovery efficiency 1107
 Potato 1095
 Potato 721
 Pothwar 423
Ppd 340
 PR genes 109
 Priming 919
 Probiotics 454
 Prokaryotic expression 68
 Proline 795
 Proteins 279
 Proteomic 279
 Proteomics 857
Prunella vulgaris 302
Pseudomonas aeruginosa 183
 PSII photochemical efficiency 493
 Punjab 1165
Puntius javanicus 279
 Purification 333
 Purple blotch 977
 Purple nutsedge 1114
 QTL 319, 582
 Quinoa 811
R. Solanacearum 1136
 Radiation mutagenesis 687
 Radiation-induced mutation 549
 Radish 288
Ralstonia solanacearum 534, 697
 Rapeseed 653
 Raspberry 269
 Rats 381
 RDA 541
 Real-time PCR 103, 259
 Recombinant inbred line 447
 Red rice 549
 Red rot 623
 Regression analysis 07
 Relationship 721
 Relative water content 54
 Re-sequencing 549
 Resistance 697
 Responses 475
 Restoration 644
Retama raetam 438
 Rewatering upon drought stress 882
 Rhizobacteria 522
 Rhizosphere 757
Rht 340
 Ribosomal protein 697
 Rice 171, 522, 582
 Rice blast 1013
RiCYP707A1 269
RiNCED1 269
 RNA sequence 288
 RNA-Seq 205
 Roman alfalfa 391
 Root 82
 Root exudates 1033
 Root growth 07
 Root rot 183
 Rootstock breeding 613
 ROS 613
Rpl3-1 697
 RSM 241
 RT-PCR 963
 Rust diseases 121
 Rust resistance genes 121
S. lycopersici 109
Saccharomyces cerevisiae 566
 Salicylic acid 197, 869
 Salinity 795
 Salt stress 54, 333, 751
 Salt-tolerance mechanism 927
 Season 559
 Second-class spawn 135
 Sediment 559
 Seed cotton yield 1158
 Seed development 87
 Seed priming 197
 Seed quality 463, 811
 Seed storage 463
 Seed yield 1149
 Seedling 509
 Seedling stage 235, 882
 Self-incompatibility 288
Sesamum indicum 851
 Sex ratio 42
 Shallot 977
 Short time-series expression miner 87
 sHSP17.6 164
 Signal transduction 730
 Simple sequence repeat 447
 Simple Sequence Repeat markers 943
 Slightly acidic electrolyzed water (SAEW) 63
 Smallholder farmers 25
 SMV 1149
 Snowpack 737
 SNP 417
SOCI 951
 Sodium nitroprusside 919
 Softening 269
 Soil amendment 431, 653
 Soil bacterial communities 737
 Soil fertility 373
 Soil health 295
 Soil layer 357
 Soil nitrification 882
 Soil physicochemical property 737
 Soil properties 438
 Solid-state fermentation 970
 Somaclonal variation 541
 Southern blight 93
 Sow 409
 Sowing dates 311
 Soybean 1149
 Species-specific primer 103
Sphaeropsis sapinea 1044
 Spinach 1114
 Sporangial production 75
 SSR 302
 SSR marker 687
 Starch synthesis 681
 Stay-green mutant 687
 Stem and root 711
Stenotrophomonas maltophilia 146
 Stomata 15
 Stomatal conductance 493
 Straw compost 906
 Stress factor 227
 Stress resistance 1075
 Structure analysis 943
 Substrate 1051
 Sucrose contents 623
 Sugarcane 349, 623
 Sulfur 215, 357
 Sunflower 869
 Superior and inferior spikelet 681
 Suppressive effect 431
 Sustainable intensification 25
 Symbiosis 786
 Systemic signaling 493
 Take-all 117
 Tartary buckwheat 681
Termitomyces eurhizus 135
 Textile wastewaters 241
 Thymic T lymphocyte subsets differentiation 381
 Thymus 381
 Tobacco 146
 Tobacco seed 87
ToCV 838, 963
 Tolerance 333
 Tomato 109, 215, 364, 534, 1003

Toxicity 326
 Transcriptomic analysis 1021
 Transcriptome 87, 302, 475
 Transgenic potato 1136
 Translocation 829
 Transport stress 589
Trichoderma 977
Trichoderma orientalis 399
Trichoderma reesei 970
 Trihelix transcription factor 863
 Turkey 1095
 Two-dimensional polyacrylamide
 gel electrophoresis 857
 Underutilized fruits 463
 Uniconazole 235

Urea 253
 UV-B 501
 Vermicompost 515
 Vip3Aa39 326
 Vip3Ad 326
 Virulence phenotype 1129
 Vitamin A 845
Vrn gene 340
 Water holding capacity 889
 Water status 1121
 Water use efficiency 1061
 Water utilization efficiency 07
 Weeds 522
 Wet/dry cycles 889
 Wheat 190, 197, 509, 751, 919

Wheat breeders 121
 Wild wheats and relatives 121
 Winter wheat 117, 906
 Wolfberry (*Lycium barbarum* L.)
 820
Xanthomonas phaseoli pv.
 Manihotis 259
 Xanthophylls 845
 Yield 235, 373, 509, 613
 Yield traits 1158
Zea mays 295, 983
 Zinc 566
 Zn α -ketoglutaric acid 155
 Zoospore release 75
Zoysia macrostachya 54