

REVIEW

Quality of core collections for effective utilisation of genetic resources review, discussion and interpretation

T.L. Odong · J. Jansen · F.A. van Eeuwijk · T.J.L. van Hintum 289

ORIGINAL PAPERS

Identification and mapping of a novel blackleg resistance locus *LepR4* in the progenies from *Brassica napus* × *B. rapa* subsp. *sylvestris*

F. Yu · R.K. Gugel · H.R. Kutcher · G. Peng · S.R. Rimmer 307

Anther extrusion and plant height are associated with Type I resistance to Fusarium head blight in bread wheat line 'Shanghai-3/Catbird'

Q. Lu · M. Lillemo · H. Skjinner · X. He · J. Shi · F. Ji · Y. Dong · Å. Bjørnstad 317

FR-H3: a new QTL to assist in the development of fall-sown barley with superior low temperature tolerance

S.P. Fisk · A. Cuesta-Marcos · L. Cistué · J. Russell · K.P. Smith · S. Baenziger · Z. Bedo · A. Corey · T. Filichkin · I. Karsai · R. Waugh · P.M. Hayes 335

Combining bulk segregation analysis and microarrays for mapping of the pH trait in melon

A. Sherman · R. Eshed · R. Harel-Beja · G. Tzuri · V. Portnoy · S. Cohen · M. Rubinstein · A.A. Schaffer · J. Burger · N. Katzir · R. Ophir 349

Positional cloning of a candidate gene for resistance to the sunflower downy mildew, *Plasmopara halstedii* race 300

J. Franchel · M.F. Bouzidi · G. Bronner · F. Vear · P. Nicolas · S. Mouzeyar 359

Identification of combining ability loci for five yield-related traits in maize using a set of testcrosses with introgression lines

H. Qi · J. Huang · Q. Zheng · Y. Huang · R. Shao · L. Zhu · Z. Zhang · F. Qiu · G. Zhou · Y. Zheng · B. Yue 369

Selecting subsets of genotyped experimental populations for phenotyping to maximize genetic diversity

B. Emma Huang · D. Clifford · C. Cavanagh 379

Validation of the effects of molecular marker polymorphisms in *LcyE* and *CrtRB1* on provitamin A concentrations for 26 tropical maize populations

R. Babu · N.P. Rojas · S. Gao · J. Yan · K. Pixley 389

Large-scale parentage analysis in an extended set of grapevine cultivars (*Vitis vinifera* L.)

T. Lacombe · J.-M. Boursiquot · V. Laucou · M. Di Vecchi-Staraz · J.-P. Pérois · P. This 401

Molecular mapping of vernalization requirement and fertility restoration genes in carrot

M.S. Alessandro · C.R. Galmarini · M. Iorizzo · P.W. Simon 415

Identification of the quantitative trait loci (QTL) underlying water soluble protein content in soybean

W. Lu · Z. Wen · H. Li · D. Yuan · J. Li · H. Zhang · Z. Huang · S. Cui · W. Du 425

Effect of inter- and intragenic epistasis on the heritability of oil content in rapeseed (*Brassica napus* L.)

T. Würschum · H.P. Maurer · F. Dreyer · J.C. Reif 435

Development of a multiple bulked segregant analysis (MBSA) method used to locate a new stem rust resistance gene (*Sr54*) in the winter wheat cultivar Norin 40

H. Ghazvini · C.W. Hiebert · J.B. Thomas · T. Fetch 443

Mapping genetic loci for tolerance to lime-induced iron deficiency chlorosis in grapevine rootstocks (*Vitis* sp.)

P.-F. Bert · L. Bordenave · M. Donnart · C. Hévin · N. Ollat · S. Decroocq 451

Hybrid rye performance under natural drought stress in Europe

M. Hübner · P. Wilde · B. Schmiedchen · P. Dopierala · M. Gowda · J.C. Reif · T. Miedaner 475

Genetic control of soybean seed oil: I. QTL and genes associated with seed oil concentration in RIL populations derived from crossing moderately high-oil parents

M. Eskandari · E.R. Cober · I. Rajcan 483

QTL detection for forage quality and stem histology in four connected mapping populations of the model legume *Medicago truncatula*

L.C. Lagunes Espinoza · B. Julier 497

Rapid development of molecular markers by next-generation sequencing linked to a gene conferring phomopsis stem blight disease resistance

for marker-assisted selection in lupin (*Lupinus angustifolius* L.) breeding
H. Yang · Y. Tao · Z. Zheng · D. Shao · Z. Li · M.W. Sweetingham · B.J. Buirchell · C. Li 511

Molecular mapping of *Yr53*, a new gene for stripe rust resistance in durum wheat accession PI 480148 and its transfer to common wheat

L.S. Xu · M.N. Wang · P. Cheng · Z.S. Kang · S.H. Hulbert · X.M. Chen 523

A high-throughput SNP marker system for parental polymorphism screening, and diversity analysis in common bean (*Phaseolus vulgaris* L.)

M.W. Blair · A.J. Cortés · R.V. Penmetsa · A. Farmer · N. Carrasquilla-García · D.R. Cook 535

Identification of genomic regions involved in resistance against *Sclerotinia sclerotiorum* from wild *Brassica oleracea*

J. Mei · Y. Ding · K. Lu · D. Wei · Y. Liu · J.O. Disi · J. Li · L. Liu · S. Liu · J. McKay · W. Qian 549