

Jonathan H. Crouch

Publications

International Refereed Journal Papers

Published or Accepted for Publication

- 50 Xu, Y. and J.H. Crouch. 2007. Marker-assisted breeding: from publications to practice. **Crop Science** (in press).
- 49 Wang, J., X. Wan, H. Li, W. Pfeiffer, J. Crouch, J. Wan. Application of identified QTL-marker associations in rice quality improvement through a design breeding approach. **Theoretical and Applied Genetics** **115** (in press) DOI 10.1007/s00122-007-0545-x
- 48 Ortiz R., R. Trethowan, G. Ortiz Ferrara, M. Iwanaga, J.H. Dodds, J.H. Crouch, J. Crossa and H.J. Braun. 2007. High yield potential, shuttle breeding and new international wheat improvement strategy. **Euphytica** (in press) DOI 10.1007/s10681-007-9375-9
- 47 Dwivedi S.L., J.H. Crouch, D.J. Mackill, Y. Xu, M.W. Blair, M. Ragot, H.D. Upadhyaya and R. Ortiz. 2007. The molecularization of public sector crop breeding: progress, problems and prospects. **Advances in Agronomy** 95:163-318.
- 46 Wang J., S.C. Chapman, D.B. Bonnett, G.J. Rebetzke and J. Crouch. 2007. Application of population genetic theory and simulation models to efficiently pyramid multiple genes via marker-assisted selection. **Crop Science**. 47:582-588.

- 45 Jayashree B., J.H. Crouch, P.V.N.S. Prasad and D.A. Hoisington. 2006. A database of annotated tentative orthologs from crop abiotic stress transcripts. **Bioinformatics** 1:225-227
- 44 Odeny, D., B. Jayashree, M.E. Ferguson, D. Hoisington, J.H. Crouch, and C Gebhardt. 2006. Development, characterization and utilization of microsatellite markers in pigeonpea [*Cajanus Cajan* (L.) Millsp.] **Plant Breeding** 126:130-136
- 43 Jayashree B., P. Reddy, Y. Leeladevi, J.H. Crouch, V. Mahalakshmi, H.K. Buhariwalla, K.E. Eshwar, E.S. Mace, R. Folksterma, S. Senthilvel, R.K. Varshney, S. Kannan, R. Rajalakshmi, V.P. Prasanth, S. Chandra, L. Swarupa, P. SriKalyani and D. Hoisington. 2006. Laboratory information management software for genotyping workflow: Components of LIMS for high-throughput genotyping. **BMC Bioinformatics** 7:383 (<http://www.blackwell-synergy.com/doi/full/10.1111/j.1439-0523.2007.01324.x>)
- 42 Mace E.S., W. Yuejin, H.D. Upadhyaya, L. Boshou and J.H. Crouch. 2006. Genetic diversity of groundnut (*Arachis hypogaea* L.) germplasm resistant to bacterial wilt assessed through microsatellite analysis. **Plant Genetic Resources Characterization and Utilization** 5:27-36
- 41 Mace E.S., Phong D.T., H.D. Upadhyaya, S. Chandra and J.H. Crouch. 2006. SSR analysis of cultivated groundnut (*Arachis hypogaea* L.) germplasm resistant to rust and late leaf spot diseases. **Euphytica** 152:317-330
- 40 Wang J, X. Wan, J. Crossa, J. Crouch, J. Weng, H. Zhai, and J. Wan. 2006. QTL mapping of grain length in rice (*Oryza sativa* L.) using chromosome segment substitution lines. **Genetical Research** 88:93-104
- 39 Upadhyaya H.D., B.J. Furman, S.L. Dwivedi, S.M. Udupa, C.L.L. Gowda, M. Baum, J.H. Crouch, H.K. Buhariwalla and S. Singh. 2006. Development of a composite collection for mining germplasm possessing allelic variation for beneficial traits in chickpea. **Plant Genetic Resources Characterization and Utilization** 4:413-419

- Upadhyaya H.D., C.L.L. Gowda, H.K. Buhariwalla and J.H. Crouch 2006. Efficient use of crop germplasm resources: identifying useful germplasm for crop improvement through core and mini-core collections and molecular marker approaches. **Plant Genetic Resources Characterization and Utilization** 4:25-35
- 37 Kashiwagi J.W., L. Krishnamurthy, J.H. Crouch and R. Serraj. 2006. Variability of root characteristics during vegetative stage and relationship with seed yield in chickpea genotypes (*Cicer arietinum* L.). **Field Crops Research** 95:171-181
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- 36 Jayashree B., M.E. Ferguson, D. Ilut, J. Doyle and J.H. Crouch. 2005. Analysis of sequences from the peanut (*Arachis hypogaea*) genome. **Electronic Journal of Biotechnology** 8:226-237
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- 34 Buhariwalla H.K., B. Jayashree, K. Eshwar and J.H. Crouch. 2005. Development of ESTs from chickpea roots and their use in diversity analysis of the *Cicer* genus. **BMC Plant Biology** 5(16) <http://www.biomedcentral.com/1471-2229/5/16/abstract>
- 33 Jayashree B., H.K. Buhariwalla, S. Shinde, P. Vinod Kumar and J.H. Crouch. 2005. A legume genomics resource: the chickpea root expressed sequence tag database and associated bioinformatics tools. **Electronic Journal of Biotechnology** 8:128-133
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- 31 Dwivedi S.L., M. Blair, H.D. Upadhyaya, R. Serraj, J. Balaji, H.K. Buhariwalla, R. Ortiz and J.H. Crouch. 2005. Using genomics to exploit grain legume biodiversity in plant breeding. **Plant Breeding Reviews** 26:171-357
- 30 Pande S, K.H.M Siddique, G.K. Kishore, B. Bayaa, P.M. Gaur, C.L.L. Gowda, T. Bretag and J.H. Crouch. 2005. Ascochyta blight of chickpea: Biology, Epidemiology and Disease Management. **Australian Journal of Agricultural Research** 56:317-332
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- 28 Crouch J.H. and R. Ortiz. 2004. Applied genomics in the improvement of crops grown in Africa. **African Journal of Biotechnology** 3:489-496
- 27 Serraj R., L. Krishnamurthy, J.W. Kashiwagi, J. Kumar, S. Chandra and J.H. Crouch. 2004. Variation in root traits of chickpea (*Cicer arietinum* L.) grown under terminal drought. **Field Crops Research** 88:115-127
- 26 Mace E.S., H.K. Buhariwalla, and J.H. Crouch. 2004. A High Throughput DNA Extraction Protocol for Tropical Molecular Breeding Programs. **Plant Molecular Biology Reporter** 21:459-460. [also available at <http://pubs.nrc-cnrc.gc.ca/ispmb/PR21-04.html>]
- 25 Sharma H.C., K.K. Sharma, N. Seetharama, and J.H. Crouch. 2004. Genetic transformation of crops for insect resistance: Potential and limitations. **Critical Reviews in Plant Science** 23:1-26
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- 24 Sharma H.C., K.K. Sharma, N. Seetharama, and J.H. Crouch. 2003. The utility and management of transgenic plants with *Bacillus thuringiensis* genes for protection from pests. **Journal of New Seeds** 5:53-76
- 23 Dwivedi S.L., J.H. Crouch*, S.N. Nigam, M.E. Ferguson, and A.H. Paterson. 2003. Molecular breeding of groundnut for enhanced productivity and food security in the semi-arid tropics: Opportunities and challenges. **Advances in Agronomy** 80:153-221
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- 21 Nwauzoma A.B., A. Tenkouano, J.H. Crouch, M. Pillay, D. Vuylsteke and L.A. Daniel Kalio 2002. Yield and disease resistance of plantain (*Musa* spp., AAB group) somaclones in Nigeria. **Euphytica** 123:323-331
- 20 Dodds J., R. Ortiz, J.H. Crouch, V. Mahalakshmi and K.K Sharma 2001. Science and technology in agriculture: Biotechnology, the gene revolution and proprietary technology in agriculture: A strategic note for the World Bank, **IP Strategy Today** 2:1-33 [also available at <http://www.biodevelopments.org/ip/ipst2hr.pdf>]
- 19 Crouch J.H., R. Ortiz, H.K. Crouch, B.V. Ford-Lloyd, E.C. Howell, H.J. Newbury, and R.L. Jarret. 2001. Utilization of molecular genetic techniques in support of plantain and banana improvement. **Acta Horticulturae** 540:185-191
- 18 Crouch H.K., J.H. Crouch, S. Madsen, D.R. Vuylsteke and R. Ortiz. 2000. Comparative analysis of phenotypic and genotypic diversity among plantain landraces (*Musa* spp., AAB group). **Theoretical and Applied Genetics** 101:1056-1065
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- 12 Osuji J.O., J.H. Crouch, G. Harrison and J.S Heslop-Harrison. 1998. Molecular cytogenetics of *Musa* L. species, banana and plantain cultivars, and artificial hybrids: location of 18S-5.8S-25S and 5S rDNA and telomere-like sequences. **Annals of Botany** 82:243-248
- 11 Tenkouano A., J.H. Crouch, H.K. Crouch and D. Vuylsteke. 1998. Ploidy determination in *Musa* germplasm using pollen and chloroplast density characteristics. **HortScience** 33:889-890
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- 2 Crouch J.H., B.G. Lewis, D.J. Lydiate and R.F. Mithen. 1995. Genetic diversity of wild, weedy and cultivated accessions of *Brassica rapa*. **Heredity** 74:491-496
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Submitted to Journal

- S5 Xu, Y., and J.H. Crouch. Decision-support tools for marker-assisted breeding. **Molecular Breeding**. Submitted.
- S4 Yunbi Xu, Debra J. Skinner, Huixia Wu, Natalia Palacios-Rojas, Jose Luis Araus, Jianbing Yan, Shibin Gao, Marilyn L. Warburton, and Jonathan H. Crouch. Genomics of maize, a worldwide crop for food, feed, forage, and fuel. **International Journal of Plant Genomics**. Submitted
- S3 Mace E.S., R.K. Varshney, V. Mahalakshmi, K. Seetha, A. Gafoor, Y. Leeladevi and J.H. Crouch. *In silico* development of simple sequence repeats markers within the aeschynomenoid/dalbergoid and genistoid clades of the Leguminosae family and their transferability to *Arachis hypogaea*, groundnut **Theoretical and Applied Genetics**. Submitted.
- S2 Buhariwalla H.K., H.D. Upadhyaya, K. Eshwar, P. Gaur, S. Chandra, V.P. Prasanth, R. Ortiz and J.H. Crouch. Genetic validation of a phenotypically-derived chickpea mini-core germplasm collection using microsatellite markers. **Theoretical and Applied Genetics**. Submitted.
- S1 Hall A., B. Yoganand, J.H. Crouch and N.G. Clark. The evolving culture of science in the Consultative Group on International Agricultural Research: concepts for building a new architecture of innovation in agri-biotechnology. **The International Journal of Technology Management and Sustainable Development**. Submitted.

Theses and books

- 3 Crouch J.H. and A. Tenkouano (eds.) 1999. *DNA Marker-assisted Improvement of the Staple Crops of Sub-Saharan Africa*. IITA, Ibadan, Nigeria – CTA, Wageningen, Netherlands. 230 pp.
- 2 Crouch J.H. 1994. Resistance to *Leptosphaeria maculans* (Desm.) Ces. & de Not. in *Brassica* L. PhD thesis, University of East Anglia, England. 173 pp. Supervised by Dr. Richard Mithen and Dr. Brian Lewis.
- 1 Crouch J.H. 1990. Investigating heat tolerance in European potato - towards the development of an *in vitro* screening system* (BSc honours thesis). University of Reading, England. 90 pp. Supervised by Prof. P.D.S. Caligari and Prof. P. John [*leading to the funding of a PhD program on this subject by the British Potato Marketing Board]

Book chapters

- 14 Xu Y. and J.H. Crouch. 2007. Maize genomics. In: Moore P. (ed.), *Tropical Crop Genomics*. In press.
- 13 William M., P. Langridge, R. Trethowan, S. Dreisigacker and J.H. Crouch. 2007. Genomics of wheat, the basis of our daily bread. In: Moore P. (ed.), *Tropical Crop Genomics*. In press.
- 12 Ortiz R. and J.H. Crouch. 2007. Creating an effective process to develop, approve and review research program priorities. In: Loebenstein G. and G. Thottappilly (eds.), *Agricultural Research Management*. Springer Verlag, Germany. In press.
- 11 Crouch J.H., P.M. Gaur, H.K. Buhariwalla, P. Barman, and H.C. Sharma. 2005. Towards molecular breeding of *Heliothis/Helicoverpa* resistance in grain legumes. In: Sharma H.C. (ed.), *Heliothis/Helicoverpa Management: Emerging Trends and Strategies for Future Research* Oxford & IBH.

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- 6 Hall A., B. Yoganand, J.H. Crouch and N.G. Clark. 2004. The evolving culture of science in the Consultative Group on International Agricultural Research: concepts for building a new architecture of innovation in agri-biotechnology. In: Hall A.J., B. Yoganand, R.V. Sulaiman and N.G. Clark (eds.), *Innovations in innovation: reflections on partnership, institutions and learning*. ICRISAT, CPHP & ICAR, India. Pp. 135-162.
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- 2 Hall A, B Yoganand and J.H. Crouch. 2003. The evolving culture of science in the Consultative Group on International Agricultural Research: concepts for building a new architecture of innovation in agri-biotechnology. In: Hall A.J., B. Yoganand, R.V. Sulaiman and N.G. Clark (eds), *Post-harvest innovations in innovation: reflections on partnership and learning*. ICRISAT & CPHP, India with NRI, England. Pp. 94-122
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- 38 Serraj R., C.T. Hash, H.K. Buhariwalla, F.R. Bidinger, R.T. Folkertsma, S. Chandra, P.M. Gaur, J Kashiwagi, S.N. Nigam, A. Rupakula, and J.H. Crouch. 2005. Marker-assisted breeding for crop drought tolerance at ICRISAT: Achievements and Prospects. In: *Proceedings of the Green-Gene Conference*, Bologna, Italy, May 2003.
- 37 Serraj R, C.T. Hash, J.H. Crouch, P.J. Lagoda 2005. Genetic and management options of drought tolerance and water use efficiency in dryland agriculture.
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- 36 Gaur P.M., S. Pande, H.C. Sharma, C.L.L. Gowda, K.K. Sharma, J.H. Crouch and V. Vadez. 2005. Genetic enhancement of stress tolerance in chickpea: present status and future prospects. International Conference on Sustainable Crop Production in Stress Environments, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur, India, February 9-12, 2005.
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- 33 Sharma H.C. and J.H. Crouch. 2004. Molecular marker-assisted Selection: A novel approach for host plant resistance to insects in grain legumes. . In *Proceedings of National Symposium on Pulses for Crop Diversification and Natural Resource Management*, December 20-22, 2003, Indian Institute of Pulses Research, Kanpur, India.
- 32 Serraj R., P.M. Gaur, L. Krishnamurthy, J. Kashiwagi, and J.H. Crouch. 2003. Drought management in pulse crops at ICRISAT. In *Proceedings of National Symposium on Pulses for Crop Diversification and Natural Resource Management*, December 20-22, 2003, Indian Institute of Pulses Research, Kanpur, India.
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- 30 Serraj R., J. Kashiwagi, L. Krishnamurthy, S.M.H. Rizvi, B. Manohar, C.T. Hash and J.H. Crouch. 2003. Crop Improvement for drought tolerance in the semi-arid tropics: Achievements and challenges. International Congress of Plant Physiology, New Delhi, India, January 2003.
- 29 Weltzien E., C.T. Hash and J.H. Crouch. 2002. *Proceedings of the workshop "Atelier sur la diversite, conservation et valorisation des ressources genetiques des mils*, INRAN, Niamey, Niger, May 28-29, 2002. ICRISAT. Niamey, Niger.
- 28 Sharma H.C., K.K. Sharma, N. Seetharama, and J.H. Crouch. 2002. Development and deployment of transgenic plants with *Bacillus thuringiensis* genes for pest management. In: Rao B.S., P.M. Mohan, and C. Subramanyam (eds.), *Developments in Microbial Biochemistry and its Impact on Biotechnology – Proceedings of National Symposium*, Osmania University, Hyderabad, India. Pp. 25-47.
- 27 Weltzien, E., B. Hanumanth Rao, J.M. Lenné, and J.H. Crouch. 2002. International public goods from biotechnology research for development in the semi-arid tropics: altruistic management of intellectual property rights. *Proceedings of the Malian National Workshop on Biotechnology, Biosafety and Intellectual Property Rights*, Bamako, Mali, June 4-6, 2002.
- 26 Weltzien, E., K.K. Sharma, N. Mallikarjuna, C.T. Hash, H.C. Sharma, and J.H. Crouch. 2002. Biotechnology assisted plant breeding for enhanced productivity in the semi-arid tropics: examples from ICRISAT's research. *Proceedings of the Malian National Workshop on Biotechnology, Biosafety and Intellectual Property Rights*, Bamako, Mali, June 4-6, 2002.
- 25 Hash C.T., R.T. Folkertsma, E. Mace, H.K. Buhariwalla, and J.H. Crouch. 2002. Application of molecular markers in plant breeding at ICRISAT. KeyGene/IRRI Conference.
- 24 Serraj R., K.N. Rai and J.H. Crouch. 2002. Current Status of Legumes Genetic Resources and Crop Improvement in South Asia. *IAEA/RCA Project Meeting on Enhancement of Genetic Diversity in Food, Pulses and Oil Crops*, Chinese Academy of Agricultural Sciences, Beijing, China, March 2002.
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- 21 Serraj R., C.T. Hash, and J.H. Crouch. 2001. Integrated strategy for drought stress management in the semi-arid tropics. *Proceedings of the LAEA group meeting on "Novel Approaches for Improving Crop Tolerance to Salinity and Drought"*, Vienna, Austria, November 12-16, 2001.
- 20 Kashiwagi J., L. Krishnamurthy, J. Kumar and J.H. Crouch. 2001. Mapping root traits for molecular breeding of drought tolerance in chickpea. *Proceedings of the 6th ISSR Symposium on Roots: the Dynamic Interface Between Plants and the Earth*, Nagoya University, Japan, November 11-15, 2001.
- 19 Sharma H.C., C.T. Hash, KK. Sharma, N. Seetharama and J.H. Crouch. 2001. Biotechnology in Agriculture: Prospects and Problems. *Proceedings Workshop on "Value addition in Agriculture"*, IDBI, Bangalore, India, August 7-8, 2001.
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