

- Hoffmann B, Aranyi N, Hoffmann S, and Molnár-Láng M. 2009. Possibilities to increase stress tolerance of wheat. *Cereal Res Commun* 37(Suppl.2):93-96.
- Molnár I, Benavente E, and Molnár-Láng M. 2009. Detection of intergenomic chromosome rearrangements in irradiated *Triticum aestivum/Aegilops biuncialis* amphiploids by multicolour genomic in situ hybridization. *Genome* 52:156–165.
- Molnár I, Cifuentes M, Schneider A, Benavente E, and Molnár-Láng M. 2009. Cytomolecular identification of intergenomic chromosome rearrangements in the allotetraploid species *Aegilops biuncialis* and *Aegilops geniculata*. In: *Proc Internat Conf on Polyploidy, Hybridization, and Biodiversity, Program and Abstracts, Saint Malo, France, 17-20 May, 2009*, p. 129.
- Molnár-Láng M, Szakács É, Molnár I, Cseh A, Sepsi A, Kruppa K, Dulai S, Hoffman B, and Jing R. 2009. Molecular cytogenetic identification, physical mapping and drought tolerance of wheat-barley introgression lines. Generation Challenge Programme, Annual Research Meeting, Bamako, Mali, 20-23. September, 2009. Poster Abstracts. CIM-MYT, Mexico, pp. 49.
- Newton AC, Akar T, Baresel JP, Bebeli PJ, Bettencourt E, Bladenopoulos KV, Czembor JH, Fasoula DA, Katsiotis A, Koutis K, Koutsika-Sotiriou M, Kovács G, Larsson H, Pinheiro de Carvalho MAA, Rubiales D, Russell J, Dos Santos TMM, and Vaz Patta MC. 2009. Cereal landraces for sustainable agriculture (review). *Agron Sustain Dev* DOI: 10.1051/agro/2009032.
- Schneider A and Molnár-Láng M. 2009. Detection of the 1RS chromosome arm in Martonvásár wheat genotypes containing 1BL·1RS or 1AL·1RS translocations using SSR and STS markers. *Acta Agron Hung* 57:409-416.
- Sepsi A, Molnár I, and Molnár-Láng M. 2009. Physical mapping of a 7A·7D translocation using multicolour genomic in situ hybridisation and microsatellite marker analysis. *Genome* 52:748-754.
- Sepsi A and Bucsi J. 2009. Physical mapping of the 7D chromosome using a wheat/barley translocation line (5HS·7DL) produced in a Martonvásári wheat background by microsatellite markers. *Cereal Res Commun* 37(Suppl.2):297-300.
- Szakács É and Molnár-Láng M. 2010. Identification of new winter wheat–winter barley addition lines (6HS and 7H) using fluorescence in situ hybridization and the stability of the whole ‘Martonvásári 9 kr1’–‘Igri’ addition set. *Genome* 53:35-44.

Genetic and Physiological Studies.

G. Kocsy, A. Szűcs, I. Vashegyi, and G. Galiba.

Involvement of free amino acids and polyamines in the stress response. The involvement of free amino acids and polyamines in the cold acclimation was studied by comparison of wheat genotypes with different freezing tolerance. The increase in proline content correlated with the level of freezing tolerance. Cold acclimation affected the free amino acid composition and resulted in great changes in the ratio of the amino acids belonging to the aspartate and glutamate family, respectively. Among the polyamines, putrescine and spermidine concentrations exhibited a great cold-induced increase. The effect of cold on free amino acid and polyamine levels is probably not mediated by abscisic acid and is not determined at the transcriptional level. The cold-induced increase in amino acid and polyamine contents may improve stress tolerance due to the direct protection of macromolecules or due to the activation of various signal transduction pathways.

Publications.

- Galiba G, Vagujfalvi A, Li C, Soltész A, and Dubcovsky J. 2009. Regulatory genes involved in the determination of frost tolerance in temperate cereals. *Plant Sci* 176:12-19.
- Szalai G, Kellős T, Galiba G, and Kocsy G. 2009. Glutathione as an antioxidant and regulatory molecule in plants subjected to abiotic stresses. *J Plant Growth Reg* 28(1):66-80.