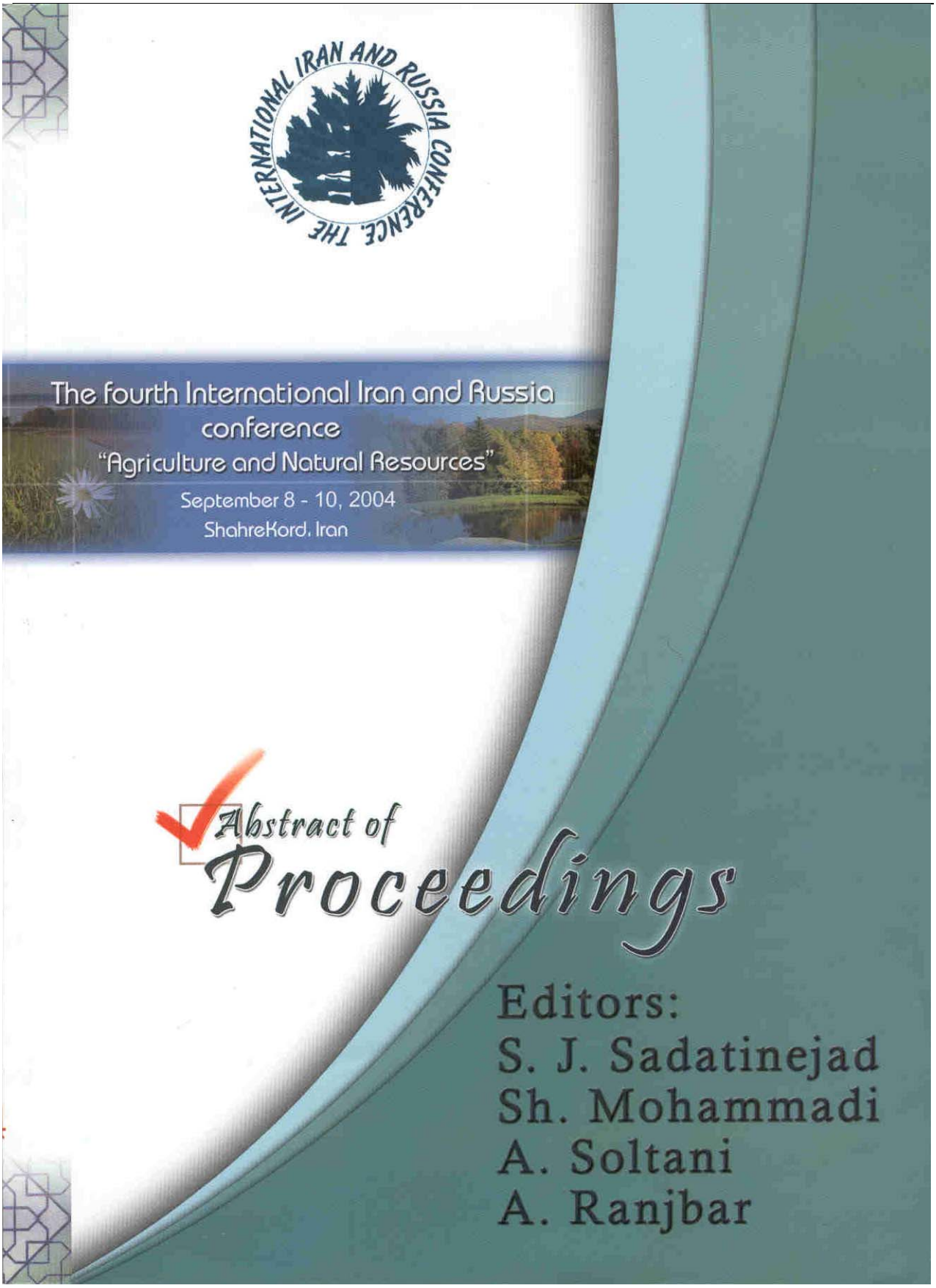
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Abstract of
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S. J. Sadatinejad
Sh. Mohammadi
A. Soltani
A. Ranjbar

Molecular genetic markers and linkage maps have provided tools to identify the genomic regions harbouring quantitative trait loci (QTL) controlling traits of interest in animals and plants. In order to map QTL affecting economically important traits in beef cattle, two mapping populations were generated in Australia and New Zealand, using a double backcross of Limousin and Jersey breeds. A total of 800 backcross progeny were produced, using three F1 sires in each country. Phenotypic measurements on about 100 traits were collected on the backcross animals. The six F1 sires and all of the backcross progeny were genotyped for 150 microsatellite markers on 29 bovine autosomes. In describing the project, this paper reports the results for growth traits.

In a preliminary attempt to map QTL influencing growth traits (birth weight (BWT), weaning weight (WWT), weight at 400 days (W400) and weight at 600 days (W600)), the Australian data were analyzed using a half-sib regression-based method. Each linkage group was scanned at 1-cM intervals for locations explaining a high proportion of the phenotypic variance using a one-QTL model interval mapping. Threshold values were determined by permutation test. Bootstrap analysis was used to calculate confidence intervals. Significant QTL (expected number of false-positives <0.01) were identified on chromosome 14 (BTA14) for BWT and W600, and on BTA1 for BWT. QTL approaching chromosome-wise significant (expected number of false-positives <0.05) were located on BTA3, 5 and 21 for BWT, and on BTA6 and 14 for WWT.

Key words: Cattle growth, Genetic markers, Quantitative trait loci.

Effect of Hydroprene – juvenile hormone analogue on the development of Colorado potato beetle larvae, *Leptinotarsa decemlineata* Say (Coleoptera: Chrysomelidae)

H. Farazmand[1, 2], S. Yu. Chaika[1] & E. E. Sinitsina[1]

1- Dept. of Entomology, Faculty of Biology, Moscow State University, 119899 Moscow, Russia; 2-Plant Pests & Diseases Research Institute, P. O. Box 1454 Tehran 19395, Iran. E-mail: hfarazmand@yandex.ru

Colorado potato beetle (CPB), *Leptinotarsa decemlineata* Say (Coleoptera: Chrysomelidae), is the major insect defoliator of potato in world. This pest has a complicated and diverse life history, which is well suited to agricultural environments. The effect of Hydroprene – juvenile hormone analogue was tested on the different larval instars of the CPB after treatment of the host-plant or by topical application. Various concentrations were prepared either in water for treatment potato foliage, or in acetone for topical application. Based on the laboratory studies, percentage of larval mortality and adult emergence in experiments with the 2nd larval in star eating of potato foliage, which was treated 0.1% Hydroprene, were 80% and 10%, respectively. In experiments with 3rd larval instars eating of potato foliage, which was treated 1% Hydroprene, were observed 100% mortality. Larval mortality was correlated with Hydroprene concentration. At application of low concentration of Hydroprene (0.001%) larval mortality, pupil and adult emergence percentages were 43.8, 56.2 and 12.5%, respectively. In the control, mortality of larvae was 17.5%. In experiments with 3rd and 4th larval instars, which were treated 1% Hydroprene on topically method, mortality was 100% and in the control - 20%. Results showed that treatment of larvae CPB delayed the onset of pupation and prevented adult emergence. Furthermore, treated larvae showed severe morphological abnormalities, but were not immediately killed at the doses used in this study.

Key words: Hormone analogue, hydroprene, mortality

The use of semi-random marker for evaluation of genetic diversity among cultivars and F_1 hybrids of durum wheat

E. Farahani & A. Arzani

Department of Agronomy and Plant Breeding, College of Agriculture, Isfahan University of Technology, Isfahan-84156, Iran. Phone: +98-311-3913453 Email:a_arzani@cc.iut.ac.ir & farahani200200@yahoo.com

The study of genetic diversity is important in a breeding program for the selection of suitably diverse parents to accumulate favorable alleles. The most commonly cultivated tetraploid wheat, durum wheat (*Triticum turgidum* L. var. *durum* Desf.) valued for pasta products, accounts for about 10% of the world's wheat production and is under cultivation in many parts of the world. Semi-random primers, targeting the semi-conservative sequences of the intron-exon splice junction of plant genes, were proved to be very useful for fingerprinting. Genetic diversity analysis using PCR with semi-random primers was carried out using 20 durum wheat genotypes, comprising three F_1 hybrids, their parental lines and some other genotypes. A semi-specific PCR