



AgriSciMont

International Conference:

**ROLE OF RESEARCH IN SUSTAINABLE
DEVELOPMENT OF AGRICULTURE
AND RURAL AREAS**

Podgorica, Montenegro
May 23-26, 2012

Book of Abstracts





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Biotechnical faculty, University of Montenegro, Podgorica

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INTRODUCTORY NOTE

We would like to extend a warm welcome to all the participants of the International Conference: „**Role of research in sustainable development of agriculture and rural areas**“.

The conference is organized under the scope of FP7 REGPOT 2010-5 Project: "Fostering a Science-based Development of a Sustainable Montenegrin Agriculture - AgriSciMont", which has been successfully implemented by Biotechnical Faculty (University of Montenegro) since June 2010.

To provide a broad vision on how technological transfer and innovation can be a base for faster sustainable development of agricultural sector as a vital part of the rural economy is the main objective of the Conference. We also see the Conference as a good opportunity to exchange ideas, strengthen existing and create new academic links in ERA, to strengthen dialogue between research community, government and practitioners in the light of the global trends in agro-food sector and latest reforms in EU model of its development.

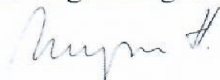
The Conference is focused on five thematic areas: Agricultural policy and science in development of agriculture; Sustainable agriculture and modern technologies; Genetic resources in agriculture and forestry; Food safety and quality of agricultural products; and the Traditional food – challenges in promotion and protection.

All program components, such as Plenary sessions, Oral and Poster Presentations, Round table and Excursion will hopefully contribute to the success of the Conference. We expect that the Conference will generate a lot of good ideas, suggestions and conclusions.

Abstract submissions exceeded expectation. Overall, a total of 127 abstracts from 21 countries were accepted and will be presented among the Conference.


We would like to express our sincere appreciation to the invited speakers and to all Conference participants for their active participation. We are very grateful to all the people who have worked hard in preparing the Conference and making it successful. Finally, we would like also to express our gratitude to the sponsors for their support.

President of
the Organizing Committee



Prof. Dr. Nataša Mirecki

President of
the Program Committee



Prof. Dr. Milan Marković

Dean of
the Biotechnical Faculty



Dr. Natalija Perović

DETERMINATION OF CHLORPYRIFOS IN WATER USED FOR AGRICULTURAL PRODUCTION

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Chlorpyrifos is one of the most frequently used insecticide worldwide and it is more often detected in surface and ground waters compared to other organophosphorus insecticides. Also, chlorpyrifos is one of the most important water pollutants (EU Directive 2008/105/EC).

In this study a solid phase extraction method was developed for determination of chlorpyrifos in surface and ground water, which are used for irrigation in agriculture production.

Samples were prepared by spiking in 500 ml of water (surface and ground) with standard chlorpyrifos solution at rates 0.01-1 µg/ml. Extraction was carried out using ENVI C18 SP disc (47mm; Supelco No. 57171). Prior to extraction, the disc was conditioned with 5 ml of acetonitrile/methanol (50/50, v/v) mixture and 5 ml of deionised water. Chlorpyrifos was eluted from the disc with 6 ml (2x3 ml) of acetonitrile/methanol (50/50, v/v). Eluent was evaporated till dry, than diluted in 2 ml of acetonitrile/methanol (50/50, v/v) and homogenised with ultrasound.

Chlorpyrifos content was analyzed using gas chromatograph (HP 5890 series II) with EC Ni⁶³ detector (column SUPELCO 24048, SPBTM-5, 30mx0.32mm, 0.25µm FILM; gas carrier He). Injected volume was 2µl. Determination conditions were – column temperature 190°C, increase of 30°C/min, final temperature 275°C; injector temperature 230°C; detector temperature 300°C.

Linearity of detected response was determined by injecting standard chlorpyrifos solution at rates 0.001-1.0 µg/ml. Correlation coefficient (R^2) was 0.995 %. Limit of detection (LOD) for analyzed chlorpyrifos was estimated from the fortified samples, while the limit of quantification (LOQ) was calculated from LOD. LOD and LOQ were 0.004 µg/ml and 0.01 µg/ml, respectively. Average recoveries of chlorpyrifos detection method in surface water were ranged from 84 % to 89 %, and in groundwater from 87 % to 95 %.

Key words: chlorpyrifos, surface water, groundwater, GC/ECD