



**18<sup>th</sup>**  
**European**  
**Weed**  
**Research**  
**Society**  
**Symposium**

**EWRS 2018**

17-21 June 2018  
Ljubljana, Slovenia

**New approaches for  
smarter weed management**

Book of Abstracts

## **Organiser**

Kmetijski inštitut Slovenije (KIS) – Agricultural Institute of Slovenia, Hacquetova ulica 17, 1000 Ljubljana, Slovenija

## **Programme Committee**

Dr. Jukka Salonen, Chairman / EWRS Vice-President; Prof. Dr. Hüsrev Mennan, Scientific Secretary; Prof. Dr. Paul Neve, EWRS President

## **EWRS Scientific Committee**

Dr. Theo Verwijst, Department of Crop Production Ecology, Swedish University of Agricultural Sciences, Sweden; Prof. Dr. Garifalia Economou-Antonaka, Faculty of Crop Production Science, Agricultural University of Athens, Greece; Dr. Kirsten Torresen, Norwegian Institute of Bioeconomy Research (NIBIO), Norway; Dr. Roland Beffa, Bayer Crop Science AG, Integrated Weed Management & Resistance Biology, Germany; Dr. Ivo O. Brants, Monsanto Europe S.A, Belgium; Jan Petersen, University of Applied Science Bingen, Germany; Christian Bohren, Research Station Agroscope Changins-Wädenswil (ACW), Switzerland; Dr. Per Kudsk, Professor & Head of Section, Dept. of Agroecology, University of Aarhus, Denmark; Maurizio Vurro, Istituto di Scienze delle Produzioni Alimentari – CNR, Italy; Dr. Marleen Riemens, Wageningen University and Research Centre, Netherlands; Prof. Dr. Svend Christensen, University of Copenhagen, Faculty of Life Sciences, Denmark; Dr. Hanan Eizenberg, Newe Ya'ar Research Center, Israel; Dr. Euro Pannacci, Dept. of Agricultural, Food and Environmental Sciences – University of Perugia, Italy; Dr. Paula Westerman, Group Crop Health, Faculty of Agricultural and Environmental Science, University of Rostock, Germany

## **Local Organising Committee**

Assoc. Prof. Dr. Andrej Simončič, President, Agricultural Institute of Slovenia; Dr. Robert Leskovšek, Agricultural Institute of Slovenia; Dr. Gregor Urek, Agricultural Institute of Slovenia; Prof. Dr. Stanislav Trdan, Biotechnical Faculty, University of Ljubljana; Prof. Dr. Mario Lešnik, Faculty of Agriculture and Life Sciences, University of Maribor; Ela Žilič, M. Sc., Agricultural Institute of Slovenia; Marjeta Urbančič Zemljič, M. Sc., Agricultural Institute of Slovenia

## **Editor**

Andrej Simončič

## **Published by**

Kmetijski inštitut Slovenije, 2018

The publication is published e-only – <http://www.ewrs.org>

## **Weed control in rice grown with plastic mulching and drip irrigation system**

Aldo Ferrero, Marco Milan, Fernando De Palo, Silvia Fogliatto, Francesco Vidotto  
University of Torino, GRUGLIASCO, Italy

Plastic mulching and drip irrigation in organic rice cultivation are practices aimed at controlling weeds and saving water. A study was conducted in 2016 and 2017 to test the combination of both techniques in a rice field in N-W Italy. The field was equipped with a subsurface drip irrigation system and subdivided in three plots (split-plot design), in which rice was mulched with biodegradable films of different thickness: one black in color and with a thickness of 15  $\mu\text{m}$  and two with a thickness of 12  $\mu\text{m}$ , one black and one transparent. An adjacent drip irrigated field was dry seeded and used as a reference. Rice seeding was performed in May and the mulched plots were sown with a plastic sheet laying and planting machine. The mulched strips were 140 cm wide and hosted 5 rice rows, while the bare soil between the mulched strips (inter strip) was 70 cm wide. The amount of water supplied to the field over the whole growing season was about 4500  $\text{m}^3/\text{ha}$ . Weeds grown in the inter strips were controlled with a modified inter-row hoeing. During the season, weed and rice density, rice height, number of dead rice plants, weed control efficacy in the inter strips and rice yield were assessed in all plots. The result of the study showed that in the inter strips, weed density at the final assessment was higher in the 15  $\mu\text{m}$  black film (403 plants  $\text{m}^{-2}$ ) and lower in the transparent film (126 plants  $\text{m}^{-2}$ ), while the number of rice culm per meter had an opposite trend. Highest yield was recorded in conventional field (7.8  $\text{t ha}^{-1}$ ), followed by 15  $\mu\text{m}$  black film with 3.7  $\text{t ha}^{-1}$ , while the lowest were those recorded with 12  $\mu\text{m}$  black and transparent films (2.3 and 2.4  $\text{t ha}^{-1}$ , respectively).