



**18th
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>

Mechanical rice transplanting as a tool for weed management in organic rice

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

Weed control is one of the main issues in organic rice cultivation. Rice transplanting can favor rice competition against weeds and allow weed control with inter-row tillage. A two-year project started in 2016 aimed at evaluating the possibility of applying mechanical rice transplanting in Italy. Rice was mechanically transplanted on 66 hectares included in 24 rice farms involved in the study, all located in the Lombardia region. Seedlings were grown in a nursery following the »mat method«, in which about 4,700 rice seeds were sown in a single tray of 60 x 30 cm, filled with a potting mix. About 200 trays were necessary to transplant a single hectare. Trays were sown with nine different rice varieties: Brio, Cammeo, Centauro, Cerere, Ronaldo, Selenio, Spillo, Venere and the hybrid variety Ecco 63. Seedlings were transplanted at 2-3 leaf stage with a self-propelled riding type transplanter, able to transplant 8 rows of rice simultaneously. The transplanting distance between rows was 30 cm, while the spacing between plant hills within the row was 17 cm. The transplanted plant hills consisted of 2 to 6 plants. The transplanting operations were conducted between mid-May and end of June. Weed control was carried out with a prototype rear-mounted inter-row hoeing machine, designed to work on saturated soil. Fields were weeded once, at about 30 days after transplanting. During the season, weed infestation was monitored in three transplanted fields, while rice yield was assessed in all the fields. The growth advantage given to rice by transplanting and the inter-row hoeing were not able to completely suppress weeds. Weed density ranged from 65.4 plants m⁻² (hybrid variety) to 131.2 plants m⁻² (Selenio). Rice yield showed high variability, with values ranging from 2.6 t ha⁻¹ (Venere) to 6.2 t ha⁻¹ (hybrid variety Ecco 63).