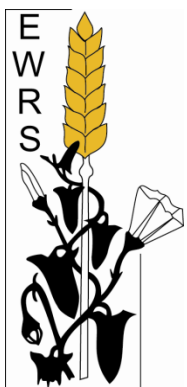


## EUROPEAN WEED RESEARCH SOCIETY



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**XVI** TH INTERNATIONAL HORTICULTURAL CONGRESS - BRUSSELS  
E CONGRES INTERNATIONAL D'HORTICULTURE - BRUXELLES  
INTERNATIONALER GARTENBAUKONGRESS - BRUSSEL

**1962**

Excerpt of John Fryer's recollections of the formation of the EWRS (read more p. 13 – 17 of this issue).  
"I have a photograph of an early meeting of the new Council taken in 1962 at the 16<sup>th</sup> International Horticultural Congress at Brussels which shows - round the table clockwise - some of the early EWRC Members including Wybo van der ZWEEP (Netherlands; in the middle), Robert LONGCHAMP (France), Jos STRYCKERS (Belgium), Birger GRANSTRÖM (Sweden), Torstein VIDME (Norway), NN, Ken WOODFORD (UK), NN, Jaakko MUKULA (Finland), NN, NN."

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## FROM THE BOARD

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### PRESIDENT'S MESSAGE

Dear colleagues and friends,



Psychologists say that aging is linked to increased perception of time passage. The same perception also arises when one is doing things that he/she likes. This has come to my mind when I realised that I am about to end my two-year term as EWRS President. Time for balance, then!

*Membership:* the number of EWRS members has stabilised to around 550, a good achievement in a period seeing the number of weed scientists going down, especially in Europe. Our policy to attract young weed scientists through student membership fees and junior subsidies to attend our events seems to pay back though there is always room for improvement. Hence, please spread the voice! By the way, it's now time to renew your 2014 membership. Save the date!

*Working groups:* we reached the outstanding number of 15 working groups! Back in 2001, when I started to serve in EWRS Committees as Scientific Secretary, we had 9 working groups. We now cover most of the subjects relevant to weeds and weed management. Our working groups have different ways of operating but they are all able to keep our Society to the forefront of weed science and practice. No doubt that they are the most important catalyser for EWRS. If you have not yet approached them, please do so and enjoy their vibrant yet informal atmosphere! Several cutting-edge events are already scheduled for 2014: please visit our website regularly to get the most updated info.

*Weed Research:* we are proud to produce the best weed journal in the world, with ever increasing indexing performances. We are lucky to have a team of enthusiastic and qualified colleagues who are taking care of it, and to whom I am indebted. I particularly want to stress the fact that we have been able to achieve outstanding results without compromising on the quality of the papers published.

*Finances:* despite the global economic crisis and our increasing workload the Society's finances are wealthy as never before, thanks to the excellent work done by our Treasurer. The number of events and young scientists that we have been able to support is just amazing! We will certainly continue on this track, keeping EWRS as the best forum to discuss weed science and its applications in an informal setting.

Now it's time to thank all the colleagues with whom I have shared these two fantastic years on the EWRS vessel: Andrej, Josef and Ben, our wise tillermen; Hansjörg, my enthusiastic predecessor and boatswain; all the Working Group coordinators, our energetic sailors; Daniel, Paul, Jon, and all *Weed Research* Editors, our crew of skilled telegraphers; and all the members who have harboured us for the many high-quality memorable events that we have been able to organise. And now, my Captain's gallons to Laszlo. Good luck and keep up the momentum!

*Ad majora!*

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## SCIENTIFIC COMMITTEE AND WORKING GROUPS

### REPORT OF THE JOINT WORKSHOP OF THE EWRS WGS "NOVEL AND SUSTAINABLE WEED MANAGEMENT IN ARID AND SEMI-ARID AGRO-ECOSYSTEMS" AND "WEED MAPPING"

The Joint Workshop of the EWRS Working Groups "Novel and Sustainable Weed Management in Arid and Semi-Arid Agro-ecosystems" and "Weed Mapping", has been held in Mediterranean Agronomic Institute of Chania (MAICh) in Crete from September 29<sup>th</sup> till October 3<sup>rd</sup> 2013. A record number of 85 participants from 16 EU and not EU countries (Greece, Israel, USA, Iran, Turkey, Finland, etc.), gathered in MAICh and enjoyed the experience of sharing scientific knowledge, and collegial interactions among scientists with a common interest.

The workshop improved and facilitated the interactions between these two important sectors of weed science, and contributed to the sustainable weed management in the fragile environment of arid and semi-arid regions and weed mapping. The idea of the Joint Workshop, proved a fruitful approach. Actually, the aims and the tasks of the two WGs interacted positively and generated ideas and potential solutions for an effective weed management with environmental point of view. Additionally, an emphasis has been given to the current status of climatic changes and their effect on the weed distribution in order to understand their dynamic role in agro-ecosystems and their competitive advantage in terms of the crops, taking into account the environmentally sensitive region of the Mediterranean basin.



The scientific program contained five sessions under the topics, weed mapping, parasitic weeds, herbicide resistance, weed biology, weed management and a round table with reports of the WG coordinators for the current status of the weed dispersal as well as proposals on improving the WG operation principles. Prof. Jens Streibig participated in the round table and will contribute to the development of a sound platform for weed monitoring. The program also

contained keynote addresses, invited lectures, plenary presentations, poster presentations, a field excursion concerning the good practice in weed management and environmental performance in the olive oil sector as well special social activities. Particularly, an event that has been organized in honor of the retirement of the Professor Baruch Rubin, for his scientific and personal contribution in the development of Weed Science at the international level.

Additionally, three Weed Scientists were honored with the medal of Crete by the Governor of Crete: Prof. B Rubin for his role in the development of Greek-Israeli co-operation contributing in a great part in making decisions and solutions for problems concerning the weed control in many crops; Dr. Hansjoerg Kraehmer, a warm friend of Greece with a deep ancient Greek education with particular emphasis to Ancient Greek poetry; Prof. Nemli Yildiz, a cordial friend of Greece, drawing her feelings from her origin in Crete.

The Joint Workshop would like to acknowledge the support of the EWRS and the Makhteshim-Agan Group, that enabled the organizers to subsidized the participation of 20 junior scientists. The supported students who presented oral or poster papers were from Greece, Israel, Turkey, Spain, Sweden and Italy. The contribution of these young weed scientists to the scientific and social program is highly appreciated.

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## REPORT OF THE MEETING OF THE EWRS WORKING GROUP GERMINATION & EARLY GROWTH

Samsun, Turkey, 26 June 2013

By Kirsten S. Tørresen, WG coordinator; [kirsten.torresen@bioforsk.no](mailto:kirsten.torresen@bioforsk.no)

The meeting was attended by 13 participants. The main objectives of the meeting were to inform about the WG, discuss publication of the results from the common experiments carried out from 2005 to 2009, and the future plans for the activities of the WG. Kirsten S. Tørresen welcomed the participants, and gave a short introduction to the WG. Kirsten has replaced Ilse A. Rasmussen as chair of the WG. We thank Ilse for a great job as chair of the WG. Kirsten presented briefly the common experiments carried out by some members of the WG: two sets of experiments, one carried out from 2005-2007 at 11 locations from Europe and North America and one carried out from 2007-2009 at 10 locations. The experiments consisted of a common set of seeds (from Denmark) and at each location a local set of seeds of *Chenopodium album*. These were buried in net cages in autumn, disturbances were carried out during spring and emergence was monitored. Examples of results from draft manuscripts were presented: (1) Results from 2005-2006 experiment written mainly by Jack Dekker (Andujar *et al.*) and (2) results from 2007-2009 experiment in a paper submitted Weed Research with Brian Schutte as main author (Schutte *et al.*). There is also planned a paper of initial characterisation of the seeds which was done by Alistair Murdoch. It was also mentioned that the dataset can be utilized for publications with different approaches, e.g. analysing effect of temperature and rainfall/soil moisture on emergence. The possibility to write a review paper on some of the subjects of the WG for Weed Research was mentioned. Ideas for new common experiments were discussed. New publications and experiments should be discussed further online/by e-mail. Finally it was decided that the next ordinary WG meeting should be a two-day informal workshop in autumn 2014. The venue was not decided upon at the meeting.

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## NATIONAL REPRESENTATIVES

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### REPORT ON ACTIVITIES WITHIN THE AREA OF WEED RESEARCH IN SWEDEN

Swedish agriculture comprises only 6.5 % of the total land area (Table 1), but stretches from latitude 55° in the south up to above latitude 65° in the northernmost part of the country. Research and education within the agricultural sector is concentrated to the Swedish University of Agricultural Sciences (SUAS; [www.slu.se](http://www.slu.se)), with main campus in Uppsala and at additionally three sites, Umeå, Skara and Alnarp. In addition, applied field experiments and trials are conducted e.g. by the regional Swedish Rural Economy and Agricultural Societies.

The university staff focusing on weed biology and weed control consists of 15 persons, including 4 PhD students, which are presently involved in projects dealing with e.g. IPM, invasive weeds, biology of perennial weeds and mechanical weeding.

One of the most important platforms for dissemination, discussions and planning of cooperation is the SUAS financed Subject Committee for Weeds, which organizes open meetings for representatives from advisory services, authorities, industry and research. It is also an important and natural forum for the EWRS' National Representative to inform about the activities of the society in general and the working groups in particular. Another important forum, which will be used more in the future for spreading information about EWRS is the web based Weed Adviser for Farmers and Gardeners (<http://ograsradgivaren.slu.se/index.htm>).

### Upcoming activities

Next year three major activities will be arranged in Sweden by EWRS' working groups (details at [http://www.ewrs.org/coming\\_events.asp](http://www.ewrs.org/coming_events.asp)):

**RECENT ADVANCES IN IWM OF PERENNIAL AND ANNUAL WEEDS, WITH A SPECIAL EMPHASIS ON THE ROLE OF CROP-WEED INTERACTIONS.**

The Working Group 'Crop-Weed Interactions' has scheduled its next meeting 27 – 29 January 2014 in Uppsala, Sweden. Just like the previous meeting it will be a collaborative meeting with the NJF. The meeting is open to any contribution in the area of crop-weed interaction, but puts a special focus on the role of crop-weed interactions in integrated weed management. Attention will be put on both annual and perennial weeds.

**10<sup>TH</sup> WORKSHOP OF THE EWRS WORKING GROUP PHYSICAL AND CULTURAL WEED CONTROL**

The aim of the workshop, 16-19 March 2014 in Alnarp, Sweden, is to create a forum where people involved in research in physical and cultural weed control can come together and exchange results, experiences, information, and establish new contacts and networks.

**WORKSHOP OF THE EWRS WORKING GROUP GERMINATION AND EARLY GROWTH**

The workshop will be arranged in Uppsala, Sweden, during two days in late October/early November. To be announced later.

Table 1. Swedish agriculture 2012 – some basic facts

Area of arable land	2.6 million ha
Organic agriculture	16 %
Number of farms	70 000
Area of crops (examples)	
Ley and green fodder	45 %
Spring barley	14 %
Winter wheat	11 %
Maize (only for silage)	0.7%
Important weeds (examples)	
Annuals	<i>Chenopodium album, Stellaria media, Tripleurospermum perforatum, Galium aparine, Alopecurus myosuroides</i> (south)
Perennials	<i>Elymus repens, Cirsium arvense, Sonchus arvensis</i>

Lars Andersson  
National Representative, Sweden

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**WEED RESEARCH IN SERBIA**

**History of weed research in Serbia**



The development of weed science as a scientific and expertise discipline dates back to the first half of the 20<sup>th</sup> century both in the world and in Yugoslavia. The first papers concerning some of the major problems of weeds in agriculture were written during that period by our weed research experts - Martinović, Jarakula and Kodinec. The discovery of  $\beta$ -naphthalene acetic acid and the synthesis of 2,4-dichlorophenoxy acetic acid has greatly contributed to the rapid development of this scientific discipline. Lectures on weeds in agriculture as part of the course

General Crop Farming were introduced following World War II at the University of Belgrade by professors Josif Kovačević and Dobra Todorović. The next generation of professors: Momčilo Kojić (Belgrade University), Zvonimir Ostojić (University of Zagreb), Rista Lozanovski (University of Skopje) and Taib Šarić (Sarajevo University) established Weed Research as a separate course at faculties of agriculture of the above mentioned four universities.

The Yugoslav Weed Commission was established in 1955 as part of the Federal Chamber of Commerce. The main tasks of this Commission were: to organize meetings and publish research papers, initiate and manage scientific work, study scientific and professional terminology, develop methods and tests for herbicide efficacy, encourage the development of experts and scientific staffs and adopt legislation in weed control, etc.

The Weed Science Society of Yugoslavia was established in 1988 and all the activities concerning weed management were taken over by this Society. The disintegration of the country in 1992 contributed to the establishment of the Weed Science Society of Serbia which took over the activities of the former Weed Society of Yugoslavia.

### **National weed research meetings organized in Yugoslavia and Serbia**

From 1955 to 1980 more than 20 meetings addressing different issues were organized:

- Symposium on grass weeds, Ohrid- Macedonia, 1971
- Symposium on weed control in highland areas, Sarajevo- Bosnia and Herzegovina, 1973
- Symposium on weed control in orchards and vineyards, Peć- Serbia, 1976
- Symposium on the application of herbicides on railways and embankment, Zagreb- Croatia, 1977
- Symposium on weed control by aircrafts and helicopters, Osijek- Croatia, 1978
- Symposium on weed control in forestry, Sarajevo- Bosnia and Herzegovina, 1979

In addition to national meetings held in our country, several international meetings dedicated to the problems of wild oats and two meetings concerning aquatic weed species in channels were organized as well. During that period wild oats has been the issue of major concern in Europe. Unfortunately we still have the problem with *Avena*, probably due to the fact that for years running there were no graminicides registered for the control of wild oats in cereals. Our farmers usually sow their own poor seeds from the previous harvest year. Finally, after approx. two decades, the first graminicide for the control of *Avena* in wheat and barley (Pallas 75 WG, a.i. piroxulam) was registered.

In our country, besides symposiums, weed congresses have been held every four years since 1980. The first 3 congresses were organized by the Weed Science Society of Yugoslavia, but after the disintegration of the country the following six congresses were organized by the Weed Science Society of Serbia. Proceedings from the congresses were usually published in our national journal *Acta herbologica*. The main topics discussed at the last several congresses were:

- 6<sup>th</sup> WS Congress, Banja Koviljača, 2000:
  - Biological and ecological research of weeds in Serbia (Momčilo Kojić, Serbia)
  - Databases of geo-referenced records, and their importance in the vegetation mapping (Branko Karadžić, Serbia)
  - Biological control of weeds (Radmila Petanović, Serbia)
  - Development of mechanization for herbicide application (Nikola Đukić, Serbia)
  - The role of IMS in sustainable agriculture (Dušan Kovačević, Serbia)
  - Herbicide import, export and trade in FR of Yugoslavia (Piljo Dakić, Serbia)
- 7<sup>th</sup> WS Congress, Palić-Subotica, 2004:
  - The significance and impact of herbicide resistant weeds – a global overview (Baruh Rubin, Israel)
  - Alien invasive weed species (Sava Vrbničanin, Serbia)
  - Weed management in organic farming (Dušan Kovačević, Serbia)
  - Genetically modified herbicide-tolerant crops (Goran Malidža, Serbia)
  - Eco-toxicological risk assessment for herbicides (Vesela Karan, Serbia)
  - Transformation, persistence, degradation and control of atrazine in soil (Vaskrsija Janjić, Serbia)
  - New aspects mode of action of phosphonate herbicides (Bogdan Nikolić, Serbia)
  - Development of machines and equipment for application of herbicides (Nikola Đukić, Serbia)
  - Socio-economic aspects of weed control in east European countries (Lidija Stefanović, Serbia)
- 8<sup>th</sup> WS Congress, Vrnjačka Banja, 2008:
  - Natural products with allelopathic, herbicidal and toxic effects (Vaskrsija Janjić, Serbia);
  - Weed resistance to herbicides in Serbia and worldwide (Branko Konstantinović, Serbia)
  - Crop-weed interaction (Milena Simić, Serbia)
  - The role of cultural practices in weed control (Dušan Kovačević, Serbia)
  - Critical period of weed control (Stevan Knežević, USA)

- 9<sup>th</sup> WS Congress, Zlatibor, 2012:
  - History, current and future weed research in Serbia (Sava Vrbničanin, Serbia)
  - Weed management in organic vegetable farming (Carlos Zaragoza, Spain)
  - Alien invasive plant species in the Northwestern Balkans and possibilities for control (Urban Šilc, Slovenia)
  - Regional networks for weed research (Ahmet Uludag, Turkey)
  - Detection of activity, mobility, persistence and limiting doses of herbicides (Siniša Mitrić, Republic of Srpska)
  - Weed control by flame (Miloš Rajković, Serbia)
  - Risk of gene flow from herbicide-tolerant crops to wild relatives (Dragana Božić, Serbia)
  - Herbicide persistence and potentially injuring susceptible future crops (Katarina Jovanović-Radovanov, Serbia)
  - Analytical methods for the determination of herbicides in soil (Rada Đurović, Serbia)

Weed research has also attracted interest at other national meetings. Each year the Plant Protection Society of Serbia organizes a scientific meeting with the session dedicated to weed research. Also, in 2007 we organized a symposium dedicated to ragweed.

Recent international weed research meetings organized in Serbia:

- 2011, The EWRS Education and Training Workshop on the "Free Statistical Software R: Analysis of variance, linear and non-linear regression in weed research". The training was held at the Faculty of Agriculture, University of Belgrade. Trainers were: prof. Christian Ritz and prof. Jens Streibig from the Faculty of Life Sciences, University of Copenhagen. The course gave the basic of the programme R. The teaching focused on regressions, be they linear or non-linear, in such a way that scientists can easily analyse their experimental data themselves by using already developed facilities in several add-on R-packages. The course was attended by 16 participants from 6 countries.
- 2011, Workshop "Official Recognition and Good experimental practice" within Twinning project „Harmonisation of national legislation with EU legislation for placing on the market and control of Plant Protection Products and implementation of new legal provisions".
- 2012, Workshop "Official recognition of Efficacy Testing" also within Twinning project. In both workshops trainers were experts from Health Safety Executive Chemicals Regulation Directorate, UK. The organizer was the Ministry of Agriculture, Forestry and Water Management of Serbia. Project financed by the EU.
- 2012, International meeting "Current Trends in Plant Protection" in Belgrade. The organizer was the Institute for Plant Protection and Environment from Belgrade.
- 2013, Workshop within TEMPUS IV Project: "International Joint Master Degree in Plant Medicine" with topic "Integrated Weed Management". The aim of this training was: to acquire, improve and compare updated and teaching knowledge in Weed research, with particular interest in the biology and control strategies. In the Project 12 partner Universities were involved: Belgrade, Novi Sad, Prishtina, Zagreb, Osijek, Skopje, Tetovo, Tirana, Korce, Plovdiv, Athena and Bari. Teachers were from Croatia, Bulgaria and Serbia.
- 2013, International seminar: „Current lists of invasive plant species of Balkans with an EPPO training course on the prioritization process for invasive alien plants" held in Belgrade. Trainers: Prof. Giuseppe Brundu, University of Sassari, Italy and Ms Sarah Brunel, EPPO, France. Local organizer was the Institute for Plant Protection and Environment, Belgrade in cooperation with the Ministry of Agriculture, Forestry and Water Management – Phytosanitary Service of Serbia and EPPO. The course was attended by 35 participants from 9 countries. The teaching program focused its attention on the EPPO Prioritization process for invasive alien plants, procedures, and CAPRA version of software was used.

## **Scientific institutions with weed research laboratories in Serbia**

Agricultural Faculties:

- University of Belgrade, Faculty of Agriculture
- Department of Phytomedicine, Laboratory for Weeds and herbicides (staff: Prof. Sava Vrbničanin (team leader), Assist.Prof. Dragana Božić, Assist.Prof. Katarina Jovanović-Radovanov, Darko Stojićević - PhD student)
- Department of Plant Production, Laboratory for Agroecology & Agrotechnics (staff: Prof. Dušan Kovačević (team leader), Assist.Prof. Željko Dolijanović)
- University of Novi Sad, Faculty of Agriculture



- Department of Environmental and Plant Protection, Laboratory for Weeds & Herbicides (staff: Prof. Branko Konstantinović (team leader). Assist.Prof. Maja Meseldžija, assistant Bojan Konstantinović, Milena Popov and Nataša Samardžić - PhD students).

#### Scientific Institutes:

- Belgrade (staff: Ljiljana Radivojević, PhD, (team leader), Vlada Jovanović, PhD, Jelena Gajić-Umiljendić, Marija Sarić-Krsmanović, Ljiljana Šantrić - PhD student)
- Institute for Plant Protection and Environment, Laboratory for Weed Research, Belgrade (staff: Dragana Marisavljević, PhD, (team leader), Danijela Pavlović, PhD, Ana Andjelkovic, Irena Krga - PhD students)
- Institute for Field and Vegetable Crops, Maize Department, Novi Sad (staff: Goran Malidža, PhD, (team leader), Miloš Rajković - PhD student)
- Maize Research Institute, Laboratory for Weed Research, Zemun Polje- Belgrade (staff: Milena Simić, PhD (team leader), Milan Brankov, Igor Spasojević - PhD students)

In addition, in the national chemical companies there are weed research groups, e.g. the "Agrosava" company where our senior weed scientist, Branislav Veljkovic, PhD, has been successfully engaged in weeds for almost four decades.

In Serbia scientific and expertise weed research activities are financially supported by the Ministry for Education, Science and Technological Development and by the Ministry of Agriculture, Forestry and Water Management throughout the projects. At the Ministry of Agriculture there exists a Directorate for Plant Protection with several services which incorporates different activities referring to weed control and management.

### **Weed research courses taught at Universities in Serbia.**

At the universities weed research courses are offered in the following programs:

- Undergraduate Academic Studies – Bachelor (8 semesters, 4 academic years, 240 ECTS)
- Graduate Academic Studies – Master (2 semesters, 1 academic year, 60 ECTS)
- Doctoral Academic Studies (6 semesters, 3 academic years, 180 ECTS)

Mandatory and elective weed research courses taught at the agricultural faculties in Serbia:

- Weed Biology and Management
- Weed Ecology
- Invasive Weed Species
- Biodiversity of Weed Flora
- Plant Quarantin
- Plant Protection Products
- Integrated Protection on Field Crops
- Population Ecology of Weeds
- Advanced Weed Research
- Mode of Action of Herbicides
- Anatomy of Weeds
- Urban Greenary Protection
- Herbicide Resistant

Content of the teaching course Weed Biology and Management:

- Weed biology and ecology: weed classification, sexual and vegetative reproduction, dormancy, spreading and emergence of weeds, seed-bank evolution, population dynamics, weed-crop interaction, parasitic weed species, weed/crop resistance to herbicides;
- Weed management: weed management in different crops (row crops, small grain cereals, orchards, perennial legume) and non-arable lands including all preventive and direct measures such as: agricultural, physical, biological and chemical in harmony with the IWM system.

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#### Doctoral theses defended during the past decade in Serbia:

- „The seasonal dynamics of the weed community, competitiveness and productivity of maize within the integrated weed management system“, University of Belgrade, Faculty of Agriculture, 2002 (Milena Simić)
- „Effects of atrazine and nicosulfuron on soil microorganisms“, University of Belgrade, Faculty of Agriculture, 2006 (Ljiljana Radivojević)
- „Synecological and floristic study of the ruderal vegetation at Pančevački rit“, University of Belgrade, Faculty of Agriculture, 2007 (Radmila Stanković-Kalezić)
- “Selectivity of sulfonilurea herbicides to maize as affected by genotype and soil insecticide use“, University of Belgrade, Faculty of Agriculture, 2007 (Goran Malidža)
- „Biology and control of False Ragweed (*Iva xanthifolia* Nutt.)“, University of Novi Sad, Faculty of Agriculture, 2008 (Dragana Marisavljević)
- „Allochthonous plant species in natural and anthropogenic plant communities in Srem“, University of Belgrade, Faculty of Agriculture, 2009 (Snežana Jarić)
- „Susceptability of plants to glyphosate: morpho-anatomical, physiological and biological aspects“, University of Belgrade, Faculty of Agriculture, 2010 (Danijela Pavlović)
- “Study of weed species resistance to the acetolactate synthase inhibiting group of Herbicides“, University of Novi Sad, Faculty of Agriculture, 2011 (Maja Meseldžija)
- „Responses of weed populations and sunflower hybrids to acetolactate inhibiting herbicides“, University of Belgrade, Faculty of Agriculture, 2011 (Dragana Božić)
- „Susceptability of crops to carryover potential of imazetapyr and clomazone“ University of Belgrade, Faculty of Agriculture, 2012 (Katarina Jovanović- Radovanov)
- “Efficiency and selectivity of herbicides in the regeneration of pedunculate oak forests“, University of Novi Sad, Faculty of Agriculture, 2012 (Verica Vasić)
- “Resistant of *Datura stramonium* L. and *Xanthium strumarium* L. to herbicide ALS inhibitors“, University of Novi Sad, Faculty of Agriculture, 2013 (Divna Marić)
- „*Ambrosia artemisiifolia* L. - Seed reserves in the soil, germination, distribution and control“, University of Novi Sad, Faculty of Agriculture, 2013 (Bojan Konstantinović)

#### Doctoral theses in the process of development:

- “Biology of field dodder (*Cuscuta campestris* Yunk.) and options for its Control“, University of Belgrade, Faculty of Agriculture (Marija Sarić-Krsmanović)
- “Critical time weed control in sunflower resistant to imidazolinone“, University of Belgrade, Faculty of Agriculture (Igor Elezović)
- „Response of inbred maize lines to herbicides and foliar fertilising“, University of Belgrade, Faculty of Agriculture (Milan Brankov)
- “Monitoring the sensitivity of vegetable crops to residual herbicides“, University of Belgrade, Faculty of Agriculture (Jelena Gajić-Umiljendić)
- „Flame weed control in maize (*Zea mays* L.) and soybean (*Glycine max* L.)“, University of Belgrade, Faculty of Agriculture (Miloš Rajković)
- “Distribution, population variability and the possibility of hybridization of weedy sunflower within relatives“, University of Belgrade, Faculty of Agriculture (Darko Stojićević)
- „*Asclepias syriaca* - Seed reserves in the soil, germination, distribution and control“, University of Novi Sad, Faculty of Agriculture (Milena Popov)
- „Soil seed bank of weeds in vineyards“, University of Novi Sad, Faculty of Agriculture (Nataša Samardžić)

#### Current research projects in Serbia

Current research projects funded by the Ministry for Education, Science and Technological Development of the Republic of Serbia:

- „Integrated weed management in order to overcome resistance to herbicides“ (III 46008)
- “Integrated system of field crop cultivation: conservation of biodiversity and soil fertility“ (TR 31037)
- “Study of plant pathogens, arthropods, weeds and pesticides in order to develop bio-rational methods of plant protection and food safety (subp: Study of weeds with regard to biological, chemical and toxicological properties of herbicides)” (TR 31043)
- “Introduction of integrated managing and usage of modern principles in plant protection for the control of harmful organisms (subp: New methods in the control of harmful organisms)”( TR 31018)

#### Bilateral projects:

- [200-2007, Serbia & Slovenia] “Weed Flora and Vegetation of Arable Land and Changes in Agroecosystems” (team leaders, Sava Vrbničanin & Urban Šilc). Result of project are papers:

- Šilc, U., Vrbničanin, S., Božić, D., Čarni, A., Dajić Stevanović, Z. (2008): Phytosociological alliances in the vegetation of arable fields in the Northwestern Balkan Peninsula. *Phytocoenologia*, 38 (4): 241-254.
- Šilc, U., S Vrbničanin, D Božić, A Čarni, Z Dajić Stevanović (2009): Weed vegetation in northwestern Balkans: diversity and species composition. *Weed Research*, 49(6): 602-613.
- Šilc, U., Vrbničanin, S., Božić, D., Čarni, A., Dajić Stevanović, Z. (2012): Alien plant species and factors of invasiveness of anthropogenic vegetation in the Northwestern Balkans – a phytosociological approach. *Central European Journal of Biology*, 7(4): 720-730.
- Šilc, U., Lososová, Z., Vrbničanin, S. (2013): Weeds shift from generalist to specialist: narrowing of ecological niches along north-south gradient. *Preslia* (accepted)
- [2006-2007, Serbia & Slovenia] „Synchronization and Application of Methods for Detection of Weed Species Resistant to Herbicides” (team leaders: Sava Vrbničanin & Andrej Simončič). The result of the project is the paper:
  - Pavlović, D., Vrbničanin, S., Božić, D., Simončič, A. (2007): *Abutilon theophrasti* Medic. Population Responses to Atrazine. *Journal Central European Agriculture*, 8(4): 435-442.
- [2008-2009, Serbia & USA] „Critical Time for Weed Removal (CTWR) in IMI-tolerant sunflower” (team leaders: Goran Malidža & Stevan Knežević). Result of project is paper:
  - Elezovic, I., Datta, A., Vrbnicanin, S., Glamoclija, Đ., Simic, M., Malidza, G., Knezevic, S.Z. (2012): Yield and yield components of imidazolinone-resistant sunflower (*Helianthus annuus* L.) are influenced by pre-emergence herbicide and time of post-emergence weed removal. *Field Crop Research*, 128: 137-146.
- [2008-2009, Serbia & Croatia] “Soil Tillage Systems and Fertilization in Crop Production” (team leaders: Milena Simić & Danijel Jug).
- [2009-2010, Serbia & Germany] “Monitoring and Managing Herbicide Resistance in Weeds” (team leaders: Sava Vrbničanin & Barbel Gerovit).

#### Current international projects with participation of weed scientists from Serbia:

- [2011-2013] Twinning P. SR/08/IB/AG/01: “Harmonisation of National Legislation with EU Legislation for Placing on the Market and Control of Plant Protection Products and Implementation of New Legal Provisions”. Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia, Project manager.
- [2011-2013] TEMPUS IV EU Project: “International Joint Master Degree in Plant Medicine (IPM)” in education area. Twelve University from 8 countries participated in the Project; Project coordinator was University from Bari, Italy (Prof. Enrico de Lillo). Within this project we had two trainings in Serbia: Genetic improvements for resistance and Integrated weed management.
- [2013-2016] EU FP7-REGPOT-AREA Project No 316004: “Advancing Research in Agricultural and Food Science at Faculty of Agriculture, University of Belgrade- AREA ”. Project coordinator is Agricultural Faculty- University of Belgrade (Prof. Radmila Stikić).

#### Past and present national and international projects dedicated to Ambrosia and other Alian Invasive Weed Species:

- [2003-2004] “Mapping of terrain under ragweed and other allergens plants, laboratory and field research and monitoring on the territory of Novi Sad” (project leader Prof. Branko Konstantinović, Faculty of Agriculture-Novı Sad), funded by Secretariat of Agriculture, Water Economy and Forestry of the Province of Vojvodina.
- [2004-2006] “Mapping of quarantine, invasive and economic noxious weeds in Serbia with proposal of their control” (project leader Prof. Sava Vrbničanin, Faculty of Agriculture-Belgrade), funded by the Ministry for Agriculture, Forestry and Water Management of the Republic of Serbia.
- [2006-2010] “Monitoring and control ragweed (*Ambrosia tremisiifolia* L.) in the city of Belgrade” (project leader Vaskrsija Janjić, PhD, IPEP-Belgrade), funded by the City of Belgrade, Department of Environmental Protection and the Department for Housing and Utilities.
- [2006-2007] “Action plan for the control input, monitoring and control of alien invasion species” (project leader dr Predrag Cakić, IBISS, Belgrade), founded by the Ministry of Environmental Protection of the Republic of Serbia.
- [2007-2008] “Identification and monitoring of alien invasive weed species on the territory of Serbia and proposed measurements to control” (project leader Prof. Sava Vrbničanin, Faculty of Agriculture-Belgrade), funded by the Ministry for Agriculture, Forestry and Water Management of the Republic of Serbia.
- [2008-2009] “Mapping of terrain under ambrosia on AP Vojvodina” (project leader Prof. Branko Konstantinović, Faculty of Agriculture-Novı Sad), funded by the Secretariat of Agriculture, Water Economy and Forestry of the Vojvodina Province.

- [2009-2010] "Monitoring and control ragweed (*Ambrosia artemisiifolia* L.) in the municipality of Obrenovac" (project leader Vaskrsija Janjić, PhD, INEP-Belgrade), funded by the Fund for Environmental Protection Obrenovac.
- [2013-2017] "Sustainable management of *Ambrosia artemisiifolia* in Europe: SMARTER" Food and Agriculture COST Action FAS 12003 (project leader: Prof. Heinz Müller-Schärer, University of Fribourg, Switzerland), funded by the EU.
- [1999-2013] "Aeropalynological research, Projects of monitoring aeroallergens" (Funding provided by Authorities in several cities as well as Authorities of the Autonomous Province of Vojvodina). Particular attention to ragweed airborne pollen and assessment of risk for allergy symptoms and to evaluation of success of eradication activities. Information available to public through [www.nspolen.com](http://www.nspolen.com)
- [2005-2008] SNF-SCOPES project "Monitoring and forecasting airborne ragweed pollen concentrations in the South-eastern part of its European distribution" lead by MeteoSwiss and in collaboration with Center of Environmental and Health Protection, Tirana, Albania; Inst. of Occupational Health, Skopje, Macedonia; Medical University of Sofia, Bulgaria.
- [2011] IPA Cross-border cooperation programme Romania-Serbia "Monitoring and control of the invasive biological pollutant – *Ambrosia artemisiifolia* L. (spp.) STOP AMBROSIA" (90960/30.12.2010).
- [2011-2013] IPA Cross-border cooperation programme Hungary-Serbia "Podrška životnoj sredini bez alergena" HUSRB/1002/122/195-EKOVOJVODINA-07.
- [2003, 2005] Organization of the International regional meeting "Live without ragweed" that gathers people and institutions regionally involved in the fight against ragweed.
- [2007-2009] Ragweed phenological observation as a part of the International Ambrosia Forecasting Collaboration (Penn State University, US MeteoSwiss)
- [2006-2012] Continuous monitoring and mapping of ragweed population dynamics, changes in the character of vegetation and threat to autochthonous species in the Pannonian biogeography region. (Projects funded by Authorities of the City of Novi Sad and the Municipality of Bačka Palanka)
- [2007-2010] "Diversity of Pannonian flora in Serbia – threatened by expansion of invasive weeds" (project leader prof. Pal Boža, UNSPMF) funded by the Ministry of Science, R. Serbia

### **Serbian weed research journals**

The following national journals are at disposal for publishing scientific and expertise papers related to weeds:

- Pesticides and Phytomedicine [Pesticidi i fitomedicina] (publisher Institute of Pesticides and Environmental Protection, printing six numbers per year, in English language)
- Plant Protection [Zaštita bilja] (publisher Institute for Plant Protection and Environment, printing two numbers per year, in Serbian and English language)
- Acta Herbologica (publisher Weed Science Society of Serbia, printing two numbers per year, in Serbian language)
- Plant Doctor [Biljni lekar] (publisher University of Novi Sad, Faculty of Agriculture, printing six numbers per year, in Serbian language).

The journal Plant Doctor publishes scientific and professional papers, and also all current and important events and information in the field of plant protection.

### **Activities of weed scientist from Serbia in the EWRS**

We have active members in several WGs, such as: WG Crop-Weed Interactions (Milena Simić), WG European Weed Mapping (Maja Meseldžija is local coordinator of this WG), WG Herbicide Resistance (Danijela Pavlović and Dragana Božić), WG Invasive Plants (Sava Vrbničanin and Dragana Marisavljević), WG Physical and Cultural Weed Control (Miloš Rajković), WG Weed Management Systems in Arid and Semi-arid Environments (Dragana Božić and Sava Vrbničanin).

Many Weed Scientists from Serbia are members of the EWRS. Maja Meseldžija is the member of the Board of the EWRS 2012-2013. Some of us frequently participate in the EWRS meetings, workshops and trainings. Some of us have good professional and friendly connections with colleagues from other Europe countries and also from other continents. This year Prof. Sava Vrbničanin had keynote address entitled "Weed research in Serbia" at the Joint Workshop of the EWRS WGs: Novel and Sustainable Weed Management in Arid and Semi-Arid Agro-Ecosystems and Weed Mapping, 29 September – 03 October 2013 Mediterranean Agronomic Institute of Chania, Crete, Greece (<http://confer.maich.gr/>).

## Weed Research in Serbia - the future:

- Investigation in the field of weed biology, diversity and ecology with the aim of preserving the gene pool and developing new biotechnologies in weed management;
- Weed mapping and software developing in order to forecast of weed emergence;
- Multidisciplinary approach in analyzing and understanding crop and weed resistance to herbicides and their effect on global food production;
- Crop-weed interference and thresholds;
- Improvement of the system of weed management in organic farming contributing to environmental protection;
- Rationalization of herbicide application and use, improvement of formulations concerning high-quality and safe food production;
- Improvement of integrated weed management in conventional plant production;
- Development, improvement and application of "technology Hormesis";
- Monitoring, mapping, risk assessment and management of alien invasive weed species.

14 October, 2013

Sava Vrbničanin  
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## MEMBER CONTRIBUTIONS

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### NETWORK ON INVASIVE ALIEN SPECIES IN TURKEY

By Ahmet Uludag; [ahuludag@yahoo.com](mailto:ahuludag@yahoo.com)

Following various requests regarding invasive alien species in Turkey, I have decided to set up a blog page called *Network on Invasive Alien Species in Turkey*. It includes publications, list of IAS, experts, news etc. Information in English is partly available. Anyone wanting to contribute can contact me. The blog can be found at: <http://turkiyedeistilaciyabanciturler.blogspot.com/>.

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### JOHN FRYER'S RECOLLECTIONS ON THE FORMATION OF THE EUROPEAN WEED RESEARCH SOCIETY

By: John FRYER, Honorary Member EWRS

The events I describe here took place some sixty years ago and memories are seldom reliable after such a long time. So I must start by apologizing for the inadequacies of this account and for omitting to mention many old friends and colleagues who played an important role in the EWRC and its replacement by the Society, also for mistakes I have undoubtedly made in describing some events and in my spelling. With few records available to me I have had to rely mainly on my memory. Nevertheless I hope the following will place on record the dedication and foresight of some of those who stimulated liaison and cooperation between pioneers in the use of herbicides in post war Europe and who also recognized the need for a permanent structure for the emerging scientific discipline of weed science.

My story begins in 1951 when the recently formed Unit of Experimental Agronomy in Oxford organised a course, in cooperation with the British Council, for overseas weed specialists on recent developments in chemical weed control. I had joined the Unit in 1950 not long after Dr Kenneth WOODFORD had been appointed as its assistant director under Prof Geoffrey BLACKMAN. At that time the chemical industry concerned with herbicides was in its infancy and most of the participants were working either at

government research stations or universities. They mainly came from what was then Western Europe although one came from as far afield as Egypt. The course provided a valuable opportunity for those of us at the Unit to meet and get to know many of the leading figures in Europe concerned with chemical weed control. It also demonstrated the need and desire for liaison and cooperation in the field of herbicides and weed control generally.

In 1953 the first British Weed Control Conference was held in Blackpool and this gave a further chance for delegates from overseas to meet one another including many of those who had attended our course in Oxford. This was reinforced during subsequent conferences and meetings throughout Europe. In May 1958 a group of research workers meeting at Ghent in Belgium discussed the need for cooperation and formed an International Research Group on Weed Control with Dr Wybo van der ZWEEP from Wageningen in Holland serving as Secretary. In his report of the meeting he wrote the following: "Only the enthusiasm of the research workers themselves, the willingness to take an active part in the common task and to include international cooperation in the normal plan of research will bring us further in this direction".

The Group held its first formal meeting at Stuttgart-Hohenheim the following March (1959) under the presidency of Prof Bernhard RADEMACHER. This gave me a further opportunity to meet prominent European research workers in the field of weed control having been invited to present a paper on the control of bracken. It was here that I became acquainted with Wybo who was later to prove the key individual in the development of both the European Weed Research Council and later the EWRS, also my close friend. As always my boss Ken WOODFORD was an active participant and determined to do all he could to promote cooperation in the field of weed control on a global basis. In the years that followed he and others continued earlier discussions held at the British Weed Control Conferences and other meetings on the possibility of launching a European Weed Research Council (EWRC) to formalize and promote further liaison and collaboration.

It so happened that our Unit was planning to hold an international symposium in Oxford the following autumn (1960) and this seemed an ideal opportunity to launch the new Council to provide a permanent structure for international cooperation. The details were worked out by Ken WOODFORD along with Wybo and other European workers. It was decided that one of the objectives of the Council would be to promote publication of the latest research related to herbicides and weeds and Ken WOODFORD persuaded me to take on the task of serving as editor of an international journal with the title of Weed Research. It would publish papers in English, French and German and agreement had been reached with Blackwell's in Oxford to be its publishers. Various organizations had contributed to a guarantee fund to cover the cost. I reluctantly agreed and was thankful when Dr Robert LONGCHAMP of INRA at Versailles and Prof RADEMACHER at Stuttgart-Hohenheim agreed to look after any papers in French or German.

At our meeting in Oxford the formation of the Council was agreed by majority vote of all delegates and I recall standing up and announcing the formation of the new journal and requesting the delegates to support it and to encourage their colleagues also. I pointed out that the journal could only be as good as the papers that were submitted to me for publication! I must pass over here the enormous difficulties I was faced with during the five years I edited the journal. Few weed researchers in our field had had previous experience of writing up their work for a peer reviewed scientific journal and the type of experimentation commonly undertaken in those early days was often unsuitable for formal publication. Producing a viable scientific journal proved an immense and often frustrating task. However with the passage of time and in the hands of successive editors and more and greater sophistication of research throughout the world it gives me enormous pleasure that Weed Research has now thrived for more than 60 years and has provided prestige and income for the Council and later the Society. Moreover it has greatly enhanced the recognition of weed science as a legitimate discipline by the scientific community.

I have a photograph of an early meeting of the new Council taken in 1962 at the 16<sup>th</sup> International Horticultural Congress at Brussels which shows - round the table clockwise - some of the early EWRC Members including Wybo van der ZWEEP (Netherlands; in the middle), Robert LONGCHAMP (France), Jos STRYCKERS (Belgium), Birger GRANSTRÖM (Sweden), Torstein VIDME (Norway), NN, Ken WOODFORD (UK), NN, Jaakko MUKULA (Finland), NN, NN.



In 1960 The Weed Research Organisation (WRO) was created based on those of us specializing in weeds and herbicides at the Oxford Unit. Dr Ken WOODFORD was the founder Director and when he left us in 1964 I was appointed his successor and took on all his many responsibilities and interests including membership of the British Weed Control Council and serving as the British representative on the EWRC. I thus became closely involved in both Councils and their activities. My new duties meant that I could no longer remain as editor of Weed Research and it was fortunate for the EWRC that a former colleague Harold ROBERTS was willing to take on responsibility for the journal. I did, however, remain chairman of its Editorial Board until 1984.

The organization of the Council was quite simple. Each country could nominate one representative as a Council member, generally a senior weed researcher at a government establishment or a university. A President was elected to serve a two year term together with a Vice President who as President Elect who would then take over for the next two years by which time he would have become familiar with the working of the Council and have had the chance to meet many of the key weed specialists in Europe. The main burden of responsibility for organizing meetings and other activities of the Council rested on the Secretary Wybo van de ZWEEP, in association with the President, together with the Treasurer Peter ZONDERWIJK in the Netherlands where the Council was officially registered. Committees were established when there was sufficient interest, e.g. the Education Committee, and a member volunteered or was persuaded to serve as its convenor and Chairman. Working Groups on specific topics were also set up when an expert in the subject volunteered to act as Leader. The first were concerned with wild oats, bracken and persistence of herbicides in soil. Members from the chemical industry were

always welcome and played an increasingly important role in the latter and in the Council's affairs in general including hosting specialist symposia.

Another activity of the Council was for its members to host a summer meeting in their own country. These generally consisted of a formal Council meeting followed by a symposium on a specific weed or herbicide area and a two or three day tour of farms, weed problems and research establishments. This often included visits to famous places of historic or cultural interest. These events were tremendously interesting and enjoyable. I myself was fortunate to be able to attend several including those held in Bulgaria, Poland, Portugal, Norway, Sweden and what was then Yugoslavia.

The position of Secretary in all these activities was absolutely critical to the Council's success. Like all the others this post was voluntary and undertaken on top of Wybo's heavy responsibilities as Head of the Weed Research Department at the IBS of the Dutch agricultural research centre at Wageningen. Wybo was the ideal person for the job and without him and the support he got from his colleagues I doubt if the Council could have survived. He was a brilliant linguist speaking English, French and German fluently and was thus able to converse with specialists throughout Europe as well as serving as interpreter at meetings. He was a true scholar and also had a delightful sense of humour which lightened many awkward moments. But as the success of the Council and its activities continued to grow his responsibilities and the time he had to spend on the Council's affairs became increasingly burdensome. Although given extra help by his Director he did not find it easy to delegate and in any case his talents and enthusiasm for the Council's activities could not easily be found in another individual.

It so happened that when my time came to be the Council's President in 1973 it was becoming obvious that some reorganization was inevitable and that others could and must play a larger role in running the Council. I made several visits to Wageningen to discuss with Wybo and his colleagues what changes were needed. One thing was clear. That during the years that had passed since the Council had been formed an ever increasing number of chemical companies had come into the field of herbicides and that their specialist staff included many highly experienced people with wide ranging talents and knowledge of weed problems and the role and properties of herbicides. Many were already participating in the Council's special subject groups. Both Wybo and I were convinced that the time had come for the Council to evolve into a fully fledged international Society with members from Industry, official bodies, universities and other organizations all able to participate on an equal basis. I recall our efforts to work out a draft Constitution for such a Society which could replace the Council. It would be based on that of the latter but a major change would be that the President and Vice President would alternate between Industry and other bodies. We floated our ideas with other members of the Council's Executive Committee including Prof Jos STRYCKERS of Belgium, Dr Robert LONGCHAMP and Roger FAIVRE-DUPAIGRE of France and Birger GRANSTRÖM of Sweden; also with others from the very active French weed society COLUMA and senior figures from leading chemical companies. They all gave their full support.

Both before and during my term as EWRC President I became increasingly concerned about Wybo. He had clearly taken on too great a load and seemed unable to get on top of his work for the Council in addition to his responsibilities for his Department at the IBS. I became apprehensive when I learned that he was accepting non-essential commitments such as attending other weed meetings around the world or overseas lecture tours whilst he had an ever increasing workload piling up on his desk at home. I remember receiving a long letter from him written on board a flight to Indonesia in which he ruefully described himself "I call myself The Flying Dutchman now".

As Secretary of the Council Wybo was responsible for keeping records of our meetings and issuing the formal Minutes to members afterwards. On several occasions he failed to produce these so I suggested that to help I would write up my own notes and send them to Wybo after each meeting so that all he would have to do was to check them and circulate them to members as the official record. But even then he found himself unable to do even this so I had no option but to take on the whole task myself.



The matter came to a head during the final EWRC meeting in Warsaw, Poland, in 1973. During the week we were there Wybo suffered a major nervous breakdown and had to be flown back to hospital in a special plane. He was out of action for many months and had to relinquish his post as Head of the Dutch weed research team and his vital role in the EWRC. Fortunately the Director of the IBS was very supportive of Wybo's key role in the Council's affairs and made a special visit to see me at WRO to discuss how he could help to ensure the plans to create the new Society would not be jeopardised by Wybo's absence. He told me that he was prepared to make available Wybo's assistant Henk GÖRTZ, full time if necessary, to help me to ensure that our plans for the Society could be finalized. It was a magnificent gesture. From then on Henk and I worked closely together on the project and he was enormously helpful.

I invited a small group of colleagues who had been enthusiastic supporters of the EWRC to form a steering committee under my chairmanship to arrange the final details and the formal replacement of the Council by the EWRS. This consisted of members both from the Council and from industry, including my old friend Rudi DE PFEIFFER from Fisons Pest Control and the delightful Birger GRANSTRÖM from Sweden who agreed to be put forward as the first Vice President and President respectively of the new Society. I must also acknowledge the great support I received at the time from members of COLUMA in France and from another good friend Prof Dr Gerhard SCHUHMANN, President of the Biologische Bundesanstalt für Land- und Forstwirtschaft (BBA; Federal Biological Research Centre for Agriculture and Forestry) at Braunschweig in Germany. Whilst the Society would retain the legal base of the EWRC in Holland its Secretariat would be transferred during its formative years from Wageningen to WRO where the Head of our Information Department John HARDCASTLE had agreed to serve as Secretary.

The final step was to bring the EWRS into formal existence. This was done at a symposium The Status, Biology and Control of Grassweeds in Paris jointly organized by COLUMA and EWRC/EWRS. The date was 3rd December 1975. It was there that the EWRS held its first General Assembly.

#### Postscript

After the closure of the Weed Research Organisation in 1984 my wife Jennie and I went to stay with Wybo and Frances at their home at Wageningen. Wybo was in great spirits and he told me about the fascinating studies he had made on little known aspects of weeds such as their occurrence in different translations of the bible and the various names given to them and the role of weeds in folklore. It was wonderful to find him restored to good health and as active and full of humour as in the years when we were talking about the need for the EWRC to become a Society. In 1981 I attended my last Society event – a symposium and Council meeting in Paris. At its conclusion I was touched to be presented with a very beautiful French bracket clock. It remains one of my most treasured possessions and serves as a reminder of the many friends I made I met during those early days of weed science.

John Fryer

June 2013, Coxes Orchard, Branscombe, Devon (UK)

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### **EWRS TRAVEL GRANT EXPERIENCE**

Dear colleagues,

As a very fresh member of EWRS working group (WG) of Weed Management in Arid and Semi-arid Climate, I would like to express gratefulness for the valuable experience and amazing professional feedback obtained during the joint meeting in Chania, Greece. Financial support and opportunity for the participation given by Organizing Committee was extremely beneficial in many ways, especially in terms of network-building and open discussions in my field of interest. From the point of view of young researcher, I would like to invite and encourage all other students to get involved in programs like this, to exchange knowledge and experience as much as possible.

The beautiful island of Crete is perfect destination for any occasion, especially scientific event like this. MaiCh and Congress Center provided high quality service with comfortable presentation hall and facilities

surrounded by institute's small botanical garden. Many thanks to organizers, who dedicated one whole day for sightseeing, visit to traditional oil-mill, and naturally and ecologically significant Falassarna beach region. Evening events were perfect opportunity for extension of the discussions, but also team building. During the WG program I was very pleased to see significant scientific contribution and future perspectives in area of weed research in Serbia, my home country. Additionally, special attention was given to the global climatic changes and possible effect on weed flora and distribution alteration. I strongly believe, that this work will have strong impact on farmers and their prompt adjustments in common agronomic practices. Furthermore, among the very diverse topics covered by joint groups, it was inevitable to notice that only few researches are focused on alternative ways of weed suppression rather than direct use and test of herbicides. Weed resistance, as a direct consequence of the increased selection pressure by herbicides, was one of the most section discussed during the WG. From my personal experience and previous research done in this area, future path must be directed towards the multidisciplinary methodology applied (weed mapping, screening, physiological and genetic tools); even more important, before problem occurs, development and implementation of the preventive measures in agro-ecosystems must become the core of the weed resistance solution.

My doctoral thesis and professional interest includes multidisciplinary studies in order to analyze contribution of agrobiodiversity on agronomic potential of highly genetically diverse maize populations-Composite Cross Populations (CCPs), the biological behavior and adaptability of crops under different agronomic and weather conditions, but also specific shifts in maize-weed interactions in organic and low input cropping systems. It is well known that in organic production simple replacement of herbicides by other direct means of weed control is not always effective or adequate enough. Therefore, within the scope of our Agroecology group (Land Lab, SSSA, Pisa) we strongly believe that system oriented approaches for the ecological weed management are necessary to be tested and developed, especially since weed control is considered to be one of the main bottlenecks in organic farming (Liebman and Davis, 200; Bàrberi, 2002). In our outgoing maize field experiments (2010-2014), special attention is given to the cover crop-based weed management, green manure effect on maize and quality of the final product (presented at ERWS workshop). We are hoping that our complementary lab bioassays and glasshouse experiments will help us to determine the optimization possibility of cover crop residues (dried plant tissue or aquatic extracts) on weed suppression, but also on maize germination, early development and their influence on maize-weed interactions (competition and/or allelopathy). Furthermore, we are examining the application of the organic mulch (poplar wood chips) when used as an ecological tool in weed control and its compatibility with CCPs of maize.



At the very end of my addressing to all of you, I would like to express my great hope that this is just the beginning of successful future collaboration and my professional contribution within EWRS. Special thanks to my supervisors, Dr. AC Moonen and Prof. Bàrberi, for their outstanding support provided during my PhD thesis.

High weed infestation levels by *Chenopodium album* L. and *Amaranthus retroflexus* L. in an organically grown maize field as a part of the SOLIBAM (Strategies for Organic and Low-Input Integrated Breeding and Management) Project at the Interdepartmental Research Station " E. Avanzi" of the University of Pisa, Italy (photo taken by N. Nol, September, 2013).

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**THE HISTOLOGY OF *LINARIA VULGARIS* MILL.**

Dear colleagues,

This time, you will notice a big jump in the alphabet when it comes to the next weed in my anatomical descriptions. The reason is that you can find short monographs of most weeds with first letters "e" to "l" and histological details in the recently published book "Weed Anatomy" by Kraehmer and Baur (2013). Data from this book cannot be published in the Newsletter without permission of the publisher. This is why I concentrate now on species either not mentioned or I include data not published in this book. The species of the last Newsletter was *Daucus carota* L. I now continue with *Linaria vulgaris* Mill. (Bayer code: LINVU), yellow toadflax or butter-and-eggs. *L. vulgaris* used to be classified as a member of the Scrophulariaceae family in the past. Today it is, however, allocated to the Plantaginaceae family. Toadflax is a perennial weed that has an interesting history in Europe. Wehsarg (1954) describes it as a weed in cereals and clovers that is sensitive to tillage. Today, it can usually only be found along field borders or on ruderal sites. Toadflax is regarded as an aggressive invasive species in the USA where it invades states such as New Mexico ([http://weeds.nmsu.edu/factsheet.php?weed\\_id=52](http://weeds.nmsu.edu/factsheet.php?weed_id=52)).



Figure 1 : Flowering *L. vulgaris* near Frankfurt, Germany

The plant reproduces by seeds or vegetatively by shoots arising from roots (Figure 6).

The flower of toadflax is bilateral (Figures 2 and 3). The sympetalous corolla is formed of five petals. The terms for the corolla remind of a mouth: the upper petal lip consists of two

lobes, the lower of three. In between is the orange palate. Each plant can produce up to 30.000 seeds per year, which are produced in capsules (Figures 4 and 5). Leaves are bifacial with a classical adaxial palisade parenchyma and an abaxial spongy mesophyll (Figure 7).

Figure 8 shows a transverse section through a stem. The cortex is separated from the central vascular cylinder by a clearly visible endodermoid layer or starch sheath. The roots are characterized by a strong secondary growth which leads to a thick central xylem core as shown in Figure 9.

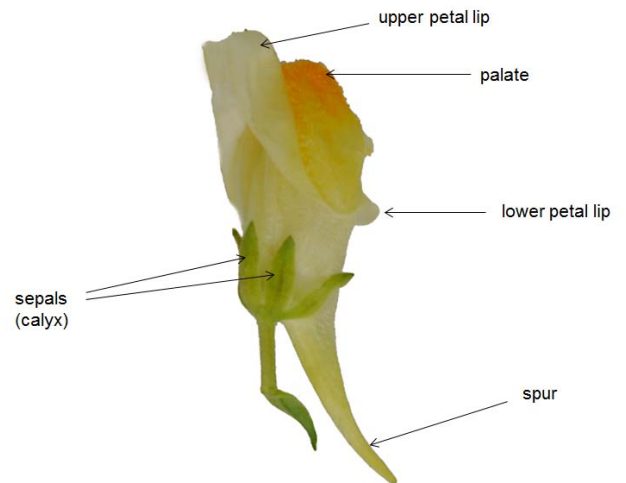


Figure 2: Single flower of *L. vulgaris*

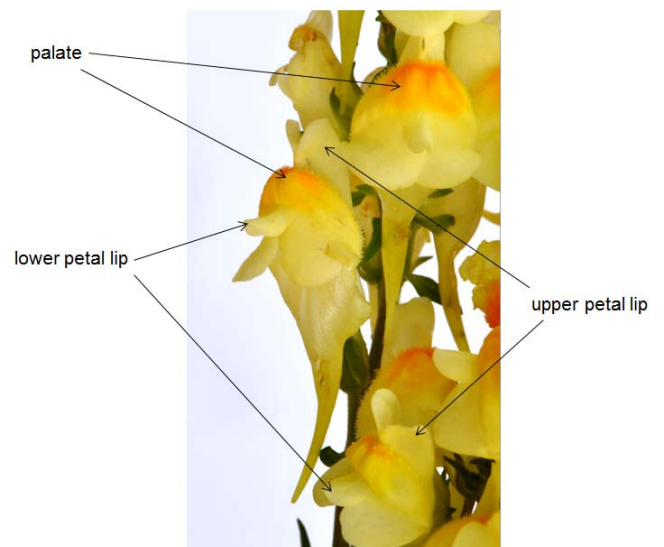


Figure 3: Part of an inflorescence



Figure 4: Capsule

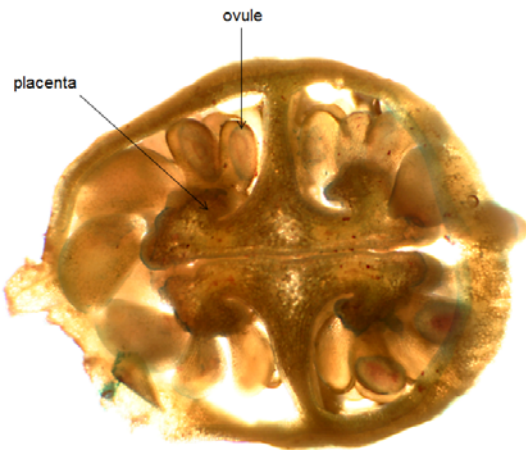


Figure 5: Transverse section through young capsule

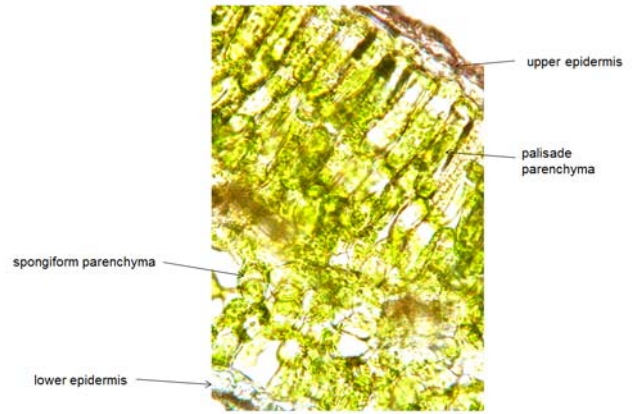


Figure 7: Leaf transverse; Gentiana violet staining, ~100x

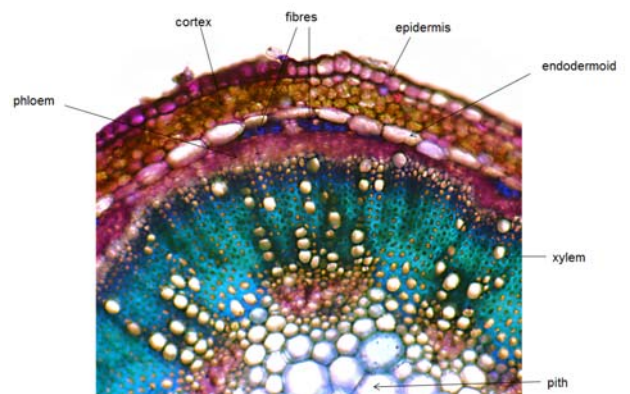


Figure 8: Stem transverse; toluidine blue, ~ 100x



Figure 6: *L. vulgaris* with roots (arrows) and newly arising shoots

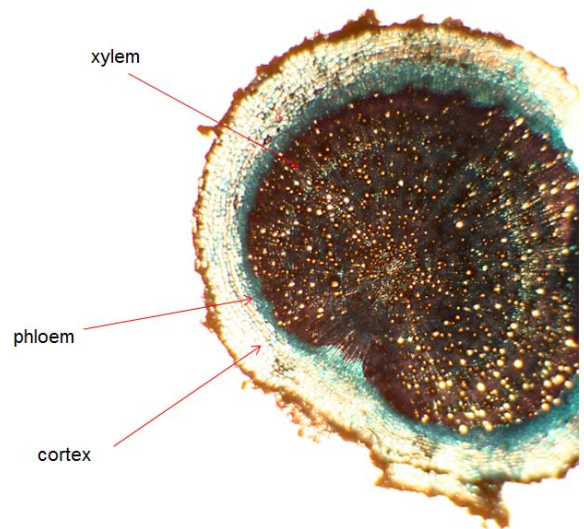


Figure 9: Root transverse; Etzold blue, ~ 40x

H. Krähmer

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## CALL FOR CONFERENCES

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### INTERNATIONAL WORKSHOP ON IAS IN AGRICULTURAL AND NON-AGRICULTURAL AREAS IN ESENIAS REGION

16-17 December 2013  
Çanakkale, Turkey

Dear colleagues,

We would like to invite you to participate in the 4<sup>th</sup> ESENIAS (South and East European Network on Invasive Alien Species) workshop, entitled: International Workshop on IAS in Agricultural and Non-Agricultural Areas in ESENIAS Region, which will be held on 16-17 December 2013, at Çanakkale Onsekiz Mart University, Çanakkale, Turkey.

The ESENIAS network was initiated in two workshops held in Zagreb in 2010 and Sofia in 2011, organized by the EEA/EIONET and national institutions. The network organized its third workshop in Serbia in 2012 together with EEA and Serbian institutions. ESENIAS would like to keep exchanging information mainly in the context of recent developments in CBD and EU bodies in its 4th workshop which will be held in Turkey co-organized by Çanakkale Onsekiz Mart University, ESENIAS, and Institute of Biodiversity and Ecosystem Research BAS, with collaboration of the IUCN Invasive Alien Species Specialist Group, on 16-17 December 2013.

The European Commission has published a proposal for a Regulation on the prevention and management of the introduction and spread of invasive alien species (9.9.2013, COM(2013) 620 final), which is not only a concern of EU countries but also neighbouring countries that are members of ESENIAS. New Animal and Plant health regulations concerning issues related to invasive alien species (IAS) are proposed this year. CBD 2020 Strategy also requires to countries, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated and measures are in place to manage pathways to prevent their introduction and establishment by 2020 (Target 9). In addition, ESENIAS prepared a work plan in the last workshop. All these issues are planned to be discussed in the workshop.

The Workshop will bring together representatives of ESENIAS, as well as of environmental management and pest control from national and regional environmental and agricultural departments and ministries, the scientific community and other organizations working with IAS to:

- Share information on IAS in agricultural and non-agricultural areas and related initiatives carried out at the regional level, such as national or local monitoring schemes, risk assessments, control and eradication projects, management plans and national strategies, citizens activities and responsibilities;
- Follow up work plan of the ESENIAS network, which was prepared in the previous meeting;
- Discuss new EU Regulation proposal on IAS management;
- Keep up to following requirements of CBD 2020 Strategy and review developments in the region;
- Seek further improvement of cooperation and networking on IAS in the region and collaboration with other networks.

#### Practical steps for registering for the workshop

Please inform ESENIAS ([trichkova@gmail.com](mailto:trichkova@gmail.com)), with copy to [ahuludag@yahoo.com](mailto:ahuludag@yahoo.com) by 31 October 2013 if you will attend the workshop. Please send an abstract of your contribution by 15 November 2013. The abstracts will be published as hardcopy and on the ESENIAS website, <http://www.esenias.org>.

No registration fee required. Accommodation (cost € 20 per night per person) is available. For more details contact Ahmet Uludag ([ahuludag@yahoo.com](mailto:ahuludag@yahoo.com)) and website:

[http://www.esenias.org/index.php?option=com\\_content&task=view&id=353&Itemid=1](http://www.esenias.org/index.php?option=com_content&task=view&id=353&Itemid=1)

**RECENT ADVANCES IN IWM OF PERENNIAL AND ANNUAL WEEDS, WITH A SPECIAL EMPHASIS ON THE ROLE OF CROP-WEED INTERACTIONS.**

27 – 29 January 2014  
Uppsala, Sweden

The Working Group 'Crop-Weed Interactions' has scheduled its next meeting early next year in Uppsala, Sweden. Just like the previous meeting it will be a collaborative meeting with the NJF. The meeting is open to any contribution in the area of crop-weed interaction, but puts a special focus on the role of crop-weed interactions in integrated weed management. Attention will be put on both annual and perennial weeds. The further details can be found in the below announcement.

**Rationale**

Crop yield reduction due to weed infestation largely results from the competitive influence of the weed on the crop. Accordingly, enhancing crop competitiveness forms a prime element of integrated weed management. The above exemplifies the central role of crop-weed interactions in both ecology and management of weeds and emphasizes the need for research in this area. This observation is valid for perennial and annual weed species alike, though interesting differences might crop up in comparing both categories of weeds.

The EWRS (European Weed Research Society, Working Group Crop - Weed Interactions) in collaboration with the NJF (Nordic Association of Agricultural Scientists, Working Group Perennial Weeds) is organizing a three-day-workshop on the role of crop-weed interactions in integrated weed management. Recent results and novel research ideas relating to either perennial or annual weeds are welcomed. We aim for an informal meeting, where all participants are offered the opportunity to present their work. Consequently, the final programme will be based on the abstracts offered.

**Workshop venue**

The meeting will be held from January 27-29, 2014 at the Swedish University of Agricultural Sciences (SLU) in Uppsala, Sweden. The meeting will start on Monday morning 9.00 h and will close early Wednesday afternoon to allow participants to return to their home on Wednesday.

**Registration and abstracts**

Registration for the workshop is valid until October 1, 2013. Registration is possible by sending an e-mail to [Anneli.Lundkvist@slu.se](mailto:Anneli.Lundkvist@slu.se), where you can also request for a template for the abstract (which can also be found on the EWRS-website). The abstract should have a maximum length of 1-A4. Attendance fee of the workshop is € 100,- and includes lunch (Monday, Tuesday, Wednesday) and dinner (Monday and Tuesday). To encourage young scientists to attend the meeting subsidies-for-young-scientists are made available through the EWRS and can be inquired for by sending an e-mail to [Lammert.Bastiaans@wur.nl](mailto:Lammert.Bastiaans@wur.nl).

For attendees from outside Uppsala accommodation has been reserved at hotel Sunnersta Herrgård, near SLU Campus at a rate of € 82,- for a single room per night, including breakfast. You will however have to make your own reservation by e-mail: [info@sunnerstaherrgard.se](mailto:info@sunnerstaherrgard.se), telephone: +46 (0)18-32 42 20, or fax: +46 (0)18-32 40 68. At booking, you need to inform the hotel that you want to book rooms reserved by Anneli Lundkvist at SLU. Information about the hotel may be found on the website of the hotel (<http://www.sunnerstaherrgard.se/index.php?id=669> (unfortunately in Swedish only)). Transportation from hotel to the workshop-venue will be arranged if needed.

On behalf of the organizing committee,  
Anneli Lundkvist (SLU, local organizer)  
Theo Verwijst (SLU, local organizer)  
Jukka Salonen (NJF, working group leader)  
Lammert Bastiaans (EWRS, working group leader)

## **TRAINING COURSE MULTIVARIATE WEED AND VEGETATION DATA ANALYSES WITH R**

10-12 February 2014  
Rostock, Germany

We propose a training course in multivariate weed and vegetation data analysis with R. This course is for PhD-students and junior or senior scientists, basically experienced with univariate and multiple statistical methods, first steps in R. We offer a 2,5 days course, group size approx. 16 people composed as following:

- introduction/refreshing R, introduction/refreshing to graphics in R
- classification methods
- ordination methods: principal components analysis, redundancy analysis, (canonical) correspondence analysis
- permutation tests
- experimental design including nested multivariate design
- exercises with discussion
- critical examination of the methods

Participants should bring and present their own data and initial analyses performed on these data. Participants should bring their own laptop with R and packages vegan and ade4 already installed (version will be announced during winter). Participants should prepare adequately for the course. The teacher of this course is Dr. Sven Adler, SLU Umeå, Sweden, and the course will be held in Rostock, Germany (at the Baltic Sea), 10 - 12. February 2014. The course will start Monday 10 February at 12.00 and end on Wednesday 12 February in the afternoon.

### **Cost and travel**

The course is free for EWRS-member and members of the EWRS working group Weeds and Biodiversity. Every participant has to pay their own travelling and accommodation in Rostock (hostels available) and all meals.

Rostock can be reached by plane (airport Hamburg or Berlin, also check Ryanair to Hamburg-Lübeck, Rostock has a small airport, check airberlin), by ferry (from Sweden, Denmark, Baltic countries), by train from Hamburg, Berlin or Szczecin (PL) and by car from south (motorway A19), west (A20) and east (A20).

If you are interested, please subscribe at [biodiversity@ewrs.org](mailto:biodiversity@ewrs.org) until 1<sup>st</sup> December 2013.

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## **10<sup>TH</sup> WORKSHOP OF THE EWRS WORKING GROUP PHYSICAL AND CULTURAL WEED CONTROL**

Alnarp, Sweden  
16-19 March 2014

Detailed information on the workshop and the First Circular can be downloaded from <http://www.ewrs.org/pwc/>.

The aim of the workshop is to create a forum where people involved in research in physical and cultural weed control can come together and exchange results, experiences, information, and establish new contacts and networks.

### **Venue**

The Workshop will take place at Swedish University of Agricultural Sciences (SUAS), campus at Alnarp, about 10 km north of Malmö (southern Sweden). The campus area is situated in a park surrounded by arable fields, but in a densely populated area. Education and research has been carried out at Alnarp for

about 150 years. SUAS offers education in landscape architecture, horticulture and agriculture at BSc to MSc levels. <http://www.slu.se/en/about-slu/locations/alnarp/>

### **Accommodations and meals**

The participant will arrange accommodation on their own in the city of Malmö. There are several accommodations in the city with prices from about 45 Euro per night to 200 Euro per night (breakfast included). More information on tourist activities and hotels can be found at the website: <http://www.malmotown.com/en/>. For those who want to spend some extra days sightseeing, Copenhagen, the capital of Denmark, is just 30 min. away (<http://www.visitcopenhagen.com>)

### **Costs for participation**

The estimated cost of the registration will be approximately 435 €. We will try to find sponsors in order to reduce registration fee. Non-EWRS members will be charged an extra fee of 60 €, which is the yearly membership price for the EWRS. The registration fee will cover: Welcome drink and light meal on Sunday evening, lunches and morning and afternoon coffee during the workshop, dinners on Monday and Tuesday, transport from your hotel to the venue, meeting's booklet, and the excursion on Tuesday.

### **Scientific programme**

The workshop aims to be informal and to stimulate as much discussion as possible among participants. We will combine plenary scientific sessions with oral and poster presentations, concurrent round-table discussions, and a final plenary session (reports on round-table discussions, directions for the future, etc.). Session chairs will briefly introduce each poster associated with the theme of their oral session presentations. We would also like to organise a keynote theme followed by an extensive discussion. You are most welcome to suggest relevant speakers and themes.

### **Abstracts and Proceedings**

A booklet with one-page abstracts of all scientific contributions will be available at the workshop. The abstracts and optional full papers of all scientific contributions, both oral and poster papers, will appear in the Proceedings, which will be published on the working group's web site after the workshop.

### **Pre-registration and call for papers**

Please complete the pre-registration form for which you will find the link <http://www.ewrsh.org/pwc> before October 15<sup>th</sup> 2013 (starting August 15<sup>th</sup>). Please note that EWRS can offer travelling scholarships for young scientist who would like to attend the workshop. You are welcome to apply for a grant, if you are a MSc student, a PhD student or a post-doc and if you are less than 35 years of age. Please send your application to Bo Melander ([bo.melander@agrsci.dk](mailto:bo.melander@agrsci.dk)).

## **HERBICIDE RESISTANCE IN EUROPE: CHALLENGES, OPPORTUNITIES AND THREATS**

Frankfurt, Germany  
19-21 May 2014

The WG "Herbicide Resistance" is planning a three-day symposium to be held in Frankfurt, Germany, 19-21 May 2014 entitled "Herbicide resistance in Europe: Challenges, opportunities and threats". Symposium venue will be The Lindner Congress Hotel, Hoechst, Frankfurt. The following day (22 May) there will be a workshop organized by the EWRS WG "Herbicide Tolerant Varieties" (see next announcement).

Attendees will have to pay their own transport and accommodation costs. A small registration fee may be payable, though it is hoped to minimise this through EWRS-support and industry sponsorship. There will be subsidies available for young scientists by application.

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The symposium aims to address the major current and future challenges in herbicide resistance evolution and management, through presentation and discussion. The organising committee have identified four major themes:

- Resistance reporting in Europe
- Ecological and evolutionary principles in resistance management
- Resistance mechanisms
- Regulation, management, adoption and socio-economics.

A call for abstracts and further details will be released soon via the working group web site and mailing list. If you would like to be regularly updated on plans for the symposium please email Paul Neve ([p.neve@warwick.ac.uk](mailto:p.neve@warwick.ac.uk)) to be added to the working group mailing list.

## **WORKSHOP OF THE EWRS WORKING GROUP HERBICIDE TOLERANT VARIETIES**

Frankfurt, Germany  
22 May, 2014

The EWRS WG Herbicide Tolerant Varieties is planning a one - day workshop in the area of Frankfurt, Germany on Thursday 22 May, 2014. This workshop will take place back to back with the announced EWRS Herbicide Resistance-working group which is organising a three-day symposium in Frankfurt, Germany, 19-21 May 2014 (see previous announcement).

Attendees of the workshop will have to pay their own transport and accommodation costs. There are limited subsidies available for young scientists by application to be sent to [ivo.o.brants@monsanto.com](mailto:ivo.o.brants@monsanto.com).

This upcoming workshop aims to build on initiatives established at the previous WG HT Varieties workshop held during the EWRS congress in Samsun, Turkey (June 2013). The initiatives which are currently under further development and will be addressed at the proposed workshop are:

- Mapping of the current commercial situation of HT varieties in Europe (with inclusion of established benefits and observed issues) as well as the identification of commercial timelines for HT varieties under development in Europe. People interested to participate in this initiative can contact [Per.Kudsk@agrsci.dk](mailto:Per.Kudsk@agrsci.dk).
- The activities for the HT sunflower case study to be worked on were defined as
  - IWM including economic impacts and impact on cropping systems. People interested to participate in this initiative can contact [matthias.pfenning@basf.com](mailto:matthias.pfenning@basf.com)
  - Management of herbicide resistant weeds resulting from these HT varieties. People interested to participate in this initiative can contact [matthias.pfenning@basf.com](mailto:matthias.pfenning@basf.com) and [P.Neve@warwick.ac.uk](mailto:P.Neve@warwick.ac.uk)
  - The use of HT sunflower cropping systems as management tool for other resistant weeds in the rotational systems. People interested to participate in this initiative can contact [matthias.pfenning@basf.com](mailto:matthias.pfenning@basf.com) and [P.Neve@warwick.ac.uk](mailto:P.Neve@warwick.ac.uk)
  - The need/no need for specific regulation/stewardship programs as related to HT sunflower.

People interested to participate in this initiative can contact [ivo.o.brants@monsanto.com](mailto:ivo.o.brants@monsanto.com). A call for scientific contributions at the workshop and further details of the workshop will be released in due time via the working group EWRS web site ([http://www.ewrs.org/Herbicide\\_tolerant\\_varieties.asp](http://www.ewrs.org/Herbicide_tolerant_varieties.asp)) and mailing list of the WG HT Varieties. People intending to participate at announced WG HT Varieties workshop are kindly invited to send a message to [ivo.o.brants@monsanto.com](mailto:ivo.o.brants@monsanto.com).

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**SECOND INTERNATIONAL CONFERENCE ON ROBOTICS AND ASSOCIATED HIGH-TECHNOLOGIES AND EQUIPMENT FOR AGRICULTURE AND FORESTRY: NEW TRENDS IN MOBILE ROBOTICS, PERCEPTION AND ACTUATION FOR AGRICULTURE AND FORESTRY.**

21 – 23 May 2014  
Madrid, Spain

**Invitation**

RHEA-2014 is the second international conference being fostered by the project RHEA (Robot fleets for highly effective agriculture and forestry management, FP7- NMP 245986). The RHEA consortium comprises a number of research centers, universities, and companies funded by the European Commission through the Seventh Framework Programme to develop robotic fleets for weed control and pesticide management in agriculture and forestry.

RHEA-2014 aims to disseminate the RHEA project results and, at the same time, to bring together academicians, researchers, engineers, developers, students and companies to share and discuss both theoretical and practical knowledge on sustainable crop protection, weed control, automation and robotics in agriculture and precision farming.

**Venue**

RHEA-2014 will be held at the Spanish National Research Council (CSIC) , Institute of Agricultural Sciences (CSIC-ICA) and the School of Industrial Engineers (ETSII) of the Polytechnic University of Madrid UPM) all of them located in the center of Madrid. This city has an air of modernity, which contrasts with its important old town and its cultural traditions. Madrid is a city of nice monuments with places of interest such as the medieval center dating back to the Habsburg Empire and the Prado Museum.

**Event structure**

RHEA-2014 is a special international conference that provides to attendees the opportunity of being present at the final RHEA project demonstration. The first day will be devoted to the RHEA project: final demo and technical tutorials. The second and third days will have the format of an international conference focused on presentations and discussions on new trends in mobile robotics, perception and actuation for agriculture

**Information**

Please look at the website for more information: <http://www.rhea-conference.eu/2014/>

**WORKSHOP “EXPLORING WEEDS AND THEIR MANAGEMENT FROM NOVEL VIEWPOINTS”**

24-28 June 2014  
Pyrenees

We would like to make members aware of a very “different” workshop to be held in the Spanish Pyrenees 24-28 June 2014 and co-organised by EWRS. Instead of the traditional presentation of research papers, four days will be devoted entirely to discussion and debate on three topics: spatial aspects of weed populations, population genetics and seed banks. The generic issues pervading these topics will be: the identification of the bigger picture research questions that will better develop weed research as a discipline; the reasons why research often fails to impact on weed management; and the initiation of global collaborations to work on the topics/issues after the workshop. Every attendee will be given a significant role to play either before or during the meeting. We also intend that everyone will become an author on at least one “ideas/challenges” journal article arising from the workshop. The venue will allow attendees to explore the wonderful local landscape, flora and fauna together every

afternoon; there will be evening events to both encourage debate and (in a light-hearted way) to develop scientific friendships that will be both enduring and productive. The number of places, however, is strictly limited – to just 30 people – and selection will be the result of an application process. One third of the places will be reserved for researchers within 5 years of completing their PhD. To find out more, go to the web site <http://andinallanos.weebly.com>.

Herbicide Resistance and Site-Specific Weed Management WGs are involved (though they do not necessarily get multiple members there (there are only 30 places)). The leaders of those groups are Paul Neve and Svend Christensen.

## **UPCOMING CONFERENCES AND WORKSHOPS**

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### **XIV CONGRESO DE LA SOCIEDAD ESPAÑOLA DE MALHERBOLOGÍA (SEMh)**

5-7 November 2013

Valencia, Spain

<http://14congresosemh.webs.upv.es>

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### **IAS IN AGRICULTURAL AND NON-AGRICULTURAL AREAS IN ESENIAS REGION**

16-17 December 2013

Çanakkale, Turkey

[http://www.esenias.org/index.php?option=com\\_content&task=view&id=353&Itemid=1](http://www.esenias.org/index.php?option=com_content&task=view&id=353&Itemid=1)

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### **22<sup>ND</sup> COLUMA CONFERENCE – INTERNATIONAL MEETING ON WEED CONTROL**

10-12 December 2013

Dijon, France

[afpp@afpp.net](mailto:afpp@afpp.net) – <http://www.afpp.net>

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### **RECENT ADVANCES IN IWM OF PERENNIAL AND ANNUAL WEEDS, WITH A SPECIAL EMPHASIS ON THE ROLE OF CROP-WEED INTERACTIONS.**

27 – 29 January 2014

Uppsala, Sweden

[Anneli.Lundkvist@slu.se](mailto:Anneli.Lundkvist@slu.se)

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### **TRAINING COURSE MULTIVARIATE WEED AND VEGETATION DATA ANALYSES WITH R**

10-12 February 2014

Rostock, Germany

[biodiversity@ewrs.org](mailto:biodiversity@ewrs.org)

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### **26<sup>TH</sup> GERMAN WEED SCIENCE CONFERENCE**

11 -13 March 2014

Braunschweig, Germany

[www.unkrauttaagung.de](http://www.unkrauttaagung.de)

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### **10<sup>TH</sup> WORKSHOP OF THE EWRS WORKING GROUP PHYSICAL AND CULTURAL WEED CONTROL**

16 - 19 March 2014

Alnarp, Sweden

<http://www.ewrs.org/pwc/>

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### **4<sup>TH</sup> INTERNATIONAL SYMPOSIUM ON WEEDS AND INVASIVE PLANTS**

18 – 23 May 2014

Montpellier, France

<http://www.ansespro.fr/invasiveplants2014/>

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**HERBICIDE RESISTANCE IN EUROPE: CHALLENGES, OPPORTUNITIES AND THREATS**

19 – 21 May 2014  
Frankfurt, Germany  
[p.neve@warwick.ac.uk](mailto:p.neve@warwick.ac.uk)

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**WORKSHOP OF THE EWRS WORKING GROUP HERBICIDE TOLERANT VARIETIES**

22 May 2014  
Frankfurt, Germany  
[ivo.o.brants@monsanto.com](mailto:ivo.o.brants@monsanto.com)

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**RHEA (ROBOTICS, ASSOCIATED HIGH-TECHNOLOGIES AND EQUIPMENT FOR AGRICULTURE AND FORESTRY)**

21 - 23 May 2014  
Madrid, Spain  
<http://www.rhea-conference.eu/2014/>

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**WORKSHOP "EXPLORING WEEDS AND THEIR MANAGEMENT FROM NOVEL VIEWPOINTS"**

24 – 28 June 2014  
Pyrenees  
<http://andinallanos.weebly.com>

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**8<sup>TH</sup> NEOBIOTA MEETING**

3-8 November 2014  
Antalya, Turkey,  
<http://www.neobiota2014.org/>

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**18<sup>TH</sup> INTERNATIONAL PLANT PROTECTION CONGRESS "MISSION POSSIBLE: FOOD FOR ALL THROUGH ADEQUATE PLANT PROTECTION"**

24 – 27 August 2015  
Berlin, Germany  
<http://www.ippc2015.de/>

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## EDITORIAL

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## INSTRUCTIONS FOR CONTRIBUTORS

**Deadline for contributions to be published in the following Newsletter issue: 1 January 2014**

### Questions

If you have any problems in writing or formatting your article, please do not hesitate to contact me. I'll be happy to assist you. As Technical Editor of the Newsletter, I prepare the final layout of the Newsletter prior to publishing. You can contact me by sending an E-mail to [newsletter@ewrs.org](mailto:newsletter@ewrs.org) / [moonen@sssup.it](mailto:moonen@sssup.it) or by calling me at +39 050 883567. I'm looking forward to receiving your contributions.

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