

INTERNATIONAL WEED SCIENCE SOCIETY



**January 2003
Newsletter**

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**The IWSS Newsletter is available on the
Internet at:**

www.olemiss.edu/orgs/iws/DEFAULT.HTM

President's Message

Our 4th International Weed Science Congress is now only 18 months away. The first circular is found at: <http://www.olemiss.edu/orgs/iws/4intlweedcong.htm>.

In November, 2002, while on a visit at the University of Pretoria, I visited the venue again with the local organizers. I was tagging along while they firmed up some of the logistical arrangements. I was even more impressed than during my first visit.

The conference center is state of the art. It has won several international awards for its services. Durban is a beautiful seaside city, with first class hotels facing the Indian Ocean. In this tourist area, the beach is extremely nice and quite safe. Also, South Africa is a tourist's bargain at this time.

Charlie Reinhardt and I also visited Capetown and its surroundings to speak with local tour organizers about potential pre-congress tours and to speak with local vegetation management people about their participation in our congress. This area of South Africa is one of the most picturesque places that I have seen. It has a unique flora, a beautiful wine country, the Cape of Good Hope, and much more. Capetown was alive with construction, commerce, and mainly European tourists. If you come to our meeting in Durban, I highly recommend visiting this part of South Africa also.

The indigenous flora of this area is threatened by numerous non-indigenous species. Large public works programs are underway to remove these unwanted plants. Former President Nelson Mandela has had some involvement in this. We hope to have those involved in this program contribute to our program.

Baruch Rubin and Charlie Reinhardt are working on the scientific program. I hope that those of you who will be asked to help organize the program will accept their request

and work hard to help make our meeting a success.

At this time, we need to disseminate information about the congress to as many potential delegates as possible. The first circular and a poster have been printed in mass and are available to any who would like them. If you know of a weed meeting coming up to which you can bring these materials, please let Charlie Reinhardt (creinhardt@bioagric.up.ac.za) know how many circulars and posters you will need.

To each of you, have a good and productive 2003. I hope to see many of you in Durban in 2004. To those of you who attend the WSSA meeting next month, please come the IWSS board meeting (room to be announced in Jacksonville).

Steve Duke, Oxford, Mississippi, USA

Weed Science Events and Workshops

Brazilian Weed Congress a Success

The 23rd meeting of Brazilian Weed Science Society was celebrated on July 29 to August 1, 2002 in Gramado, Brazil. The event attracted 524 participants who presented 694 posters. Of these, 132 were selected to be presented as papers in particular topic areas. A highlight of the congress were the presentations by many invited speakers in four panels. The topic of the panels were Herbicide Resistant Weeds, Herbicide Resistant Crops, Integrating Herbicides and the Environment, and Integrated Weed Management. Particular aspects within each of these topics were addressed by two to four speakers.

Awards were given as follows: Fellow Award to Dr. Dionísio Luiz Pisa Gazziero; Industry Award to Dr. Carlos Marçal Zuppi da Conceição; and the Teaching Award to Dr. Nilson Gilberto Fleck; the Emeritus Award to Dr. Robinson Antonio Pitelli and the Research Award to Dr. José Francisco da Silva. Awards were also given to those with the best posters, photos submitted, and journal article in the Brazilian Weed Science Journal, *Planta Daninha*.

The 2002 Congress was organized by Dr. Eriveton Scherer Roman and his many able

subcommittees. The president for the past two years and during the Congress was Joo Baptista da Silva. Roberto Deuber was elected as the new president of the Brazilian Society. The next Congress will take place on July 4-8, 2004 in the city of Águas de Lindóia in the state of Sao Paulo.

FAO Expert Consultation on Weed Risk Assessment

Because of the growing concern of weed invasions, FAO decided to develop draft weed-risk assessment guidelines. To this end, a set of proposed guidelines was prepared by Dr. Peter A. Williams of Landcare Research, New Zealand, which were then discussed in an FAO expert consultation held 11-13 June 2002, at the Consejo Superior de Investigaciones Científicas (CSIC), Centro de Ciencias Medioambientales, Madrid, Spain, with the participation of Dr. Cesar Fernandez Quintanilla (Spain), Mrs. Dantsey-Barry Hadyatou (Togo), Dr. Shunzi Kurokawa (Japan), Dr. Jacques Maillet (France), Mr. Chris Parker (England), Ing. Jorge Padron Soroa (Cuba), Dr. Dane Panetta (Australia), Dr. Randy Westbrooks (USA), Dr. Carlos Zaragoza (Spain), Dr. Juan Monte (Spain), and Dr. Ricardo Labrada, the FAO weed officer. Each participant presented a paper on the problems of the entry and establishment of exotic plants in their country and/or region, and the ways to prevent these adversities in the future. Only a few countries have regulations on this matter. Even European Union has not implemented any standard to this end. The group decided that a set of draft guidelines was required and that it should include a simple key for weed-risk assessment. The key was recently finalized by Drs. Dane Panetta and Peter Williams and is now in the process of final approval as the FAO standard.

FAO training course on weed management for China

A comprehensive training course on weed management was organized by the Plant protection institute, Beijing and FAO. It was held on 6-11 May 2002 in Guanzhou, with the participation of 21 specialists from various Chinese provinces. The course was imparted by Dr. Cesar Fernández Quintanilla from CSIC, Madrid and the FAO weed officer. From discussions in the course, was clear that there is a need to train farmers in all crops on matters related to improved weed

management, with major emphasis on weed participants agreed that, although there are no resistant weeds are known in China, surveys are urgently required to prevent major problems and crop losses in the future. Based on these recommendations, participants now intend to start a kind of "IPM Farmers Field Schools" in China in order to train farmers in matters related to weed management.

FAO-EU International course on "Weed Ecology for Cotton IPM"

This course was sponsored with funds from regional project GCP/RAS/164/EC (IPM in cotton). The course took place in Dagupan, Philippines, 23-27 September 2002, and had 24 participants from Bangladesh, China, India, Pakistan, Vietnam and the host country. This was the seventh regional course on weed ecology and interference organized by FAO and the first one with the participation of several IPM facilitators who were not weed scientists. The course was presented by Dr. Cesar Fernández Quintanilla from CSIC, Madrid and Dr. Ricardo Labrada, the FAO weed officer. A CD with the lectures and methods taught during the course is now under revision by various weed ecologists and will be published by FAO.

Towards Effective Implementation of Parasitic Weed IPM in Cereal-Legume Cropping Systems in Africa- regional workshop.

The Africa-wide Partnership workshop on parasitic weed IPM in cereal-legume cropping systems was jointly organized by the CGIAR's System wide Program on IPM (SP-IPM), Pan-African Striga Control Network (PASCON), FAO and the Semi-Arid Food Grain Research and Development program (SAFGRAD of the African Union). The workshop was held at IITA's Biological Control Center for Africa, Cotonou, Republic of Benin, 29 – 31 October, 2002 with specialists from Benin, Burkina Faso, Cameroon, Gambia, Ghana, Kenya, Mali, Morocco, Niger, Nigeria, Tanzania, Togo, Zimbabwe, CIMMYT (Kenya), FAO HQs and Regional office for Africa, ICARDA, ICIPE (Kenya), IITA, PASCON and SAFGRAD. Dr. Agbobli of Togo told how he successfully conducted the first Farmers Field School for Striga control. The specialist noted that the farmers in North Togo knew little regarding the biology of the parasite nor that these plants

ecology and interference. Most of the have a long subterranean cycle. Based on this finding, the farmers came to the conclusion that something has to be done to prevent buildup of the seed bank and to avoid the subterranean development of Striga. The participants concluded that the focal problem is "limited field implementation of parasitic weed IPM options." To address this problem, the workshop identified seven cross cutting issues with component activities to form the basis of a common field program; revealed a good history of inter-institutional collaboration; listed a common set of IPM entry points to focus on in the field program; and developed an inventory of researcher and farmer evaluated IPM options.

New Publications

A Technical Manual for Parasitic Weed Research and Extension. Edited by Jürgen Kroschel, University of Hohenheim, Institute of Plant and Agroecology in the Tropics and Subtropics, Stuttgart, Germany. Parasitic weeds of the families Cuscutaceae, Orobanchaceae and Scrophulariaceae are considered to be among the major problems facing agriculture in the Tropics and Subtropics. In the last decades, enormous efforts have been made and success achieved by scientists all over the world in gaining a better understanding of their biology and ecology as well as of control methods. However, no substantial reduction of infestation has been achieved in the past and control strategies specific to the different parasites, crops and farming systems must be further developed or adapted and realized among a wider farming population with suitable extension methods.

This "Technical Manual" provides up-to-date methodologies for various aspects of research and extension related to parasitic weed species of the genera *Striga*, *Alectra*, *Orobanche* and *Cuscuta*. Its objective is to support scientists and extension workers of international and national research and extension institutes and universities, who are either new to the subject or plan to apply further techniques they are not yet familiar with.

Now available in paperback, ISBN 1-4020-0645-4 April 2002, 292 pp. EUR 70.00/ USD 59.00 or GBP 43.00. For more information on this book please visit <http://www.wkap.nl/prod/b/0-7923-6880-0>.

World's Largest Listing of Weeds

Produced. The world's largest compendium or weeds lists nearly 22,000 plant species regarded as weeds and plants with a high potential to become weeds. Author Rod Randall is a weed researcher with the Australian Dept. of Agriculture. He spent six years compiling the book, which lists nearly three-times more weeds than previously published in a global compendium. Mr. Randall said weeds were a major problem in natural and agricultural systems throughout the world.

Weeds posed one of the greatest threats to biodiversity and weed control was often a major cost of production in both developed and undeveloped countries. "My purpose in drawing all this information together was partly to provide a useful world reference but mainly to provide a resource that can be used to determine weed risk assessment," said Mr. Randall. "It will be of particular help to developing countries, enabling them to identify the relative weed risks of any plants being introduced into their region." In compiling the volume, more than 700 data sources were checked to produce a database that contains nearly one million taxonomic records. Each entry included a condensed report on the 'weed history' of the plant and extensive references for further information.

While the compendium provides a large increase in the number of documented weeds globally, it by no means covers the entire weed flora of the world. "When people continue to move plants around the world with little regard for the consequences of their actions, new weeds will continue to appear," Mr. Randall said. "However, if this compendium helps prevent the establishment of one new weed anywhere, it will have been worth the effort." A global compendium of weeds costs AUS \$165 and can be ordered via the web:

www.weedinfo.com.au or by email to the publishers at richardson@weedinfo.com.au.

Items of Interest

Water Fern Controlled in Senegal River, but *Typha* Increases.

Water fern (*Salvinia molesta*) is under control in Senegal River, but *Typha* stands are increasing. The aquatic weed *S. molesta* has been almost eliminated from Senegal River using the biological control agent, *Cyrtobagous salviniae*. This achievement is due to the systematic work conducted by the teams of two countries involved (Mauritania and Senegal). A total of 55,000 adult insects (29,000 in Senegal and the rest in Mauritania) were released during the second half of 2001 and the first seven months of 2002. This successful work against *Salvinia* was conducted by national experts of both countries under and FAO project.

While it is now difficult to find any fern in the river, the aquatic weed *Typha australis* heavily infests most of the river's edges. This phenomenon is due to a decrease of water depth in the borders. The presence of *Typha* is becoming a serious problem because the communities must have access to water and need to burn the weed to also kill dangerous snakes that inhabit some weed infestations. The situation is compelling authorities to find immediate solutions, where unfortunately biological control agents are not available.

Tackling Invasive weeds in Canada.

Dr. Raj Prasad at the Pacific Forestry Centre, Victoria, B.C. has been conducting research on Ecology, Biology and Management of Exotic (Invasive) Weeds on federal lands where some of these (*Cytisus scoparius*, *Ulex europaeus*, *Daphne laureola* and *Hedera helix*) are posing serious threats to native species, particularly in the rare and endangered Garry Oak (*Quercus garryana*) Ecosystems. Many ornamentals were introduced into North America for various beneficial purposes but some of these alien plants have escaped, expanded their range and invaded into the new environments. Thus, they

have facilitated ecosystem changes and displaced native organisms through habitat alterations or simply by competition.



Ivy Infestation



Gorse Infestation

Therefore, an effort is being made to arrest their spread and several control options are being tested, including mulching, cutting, herbicides and biological agents. While the herbicide (triclopyr) and mulching have been very effective, the bioherbicide using the fungus *Chondrostereum purpureum* shows some promise in reducing the resprouting behavior in scotch broom and gorse. It has been applied on *laureola* and *Hedera helix* to see if the bioherbicide affects them.

CIMMYT Unveils Herbicide-Coated Maize Seed Technology for *Striga* Control to Regulators and Commercial Entities.

New, locally adapted, herbicide-resistant, open pollinated and hybrid maize varieties along with the seed-coating technology for *Striga* control were described to seed and chemical companies as well as pesticide and seed variety regulators in Eastern and Southern African in a two and a half day meeting in early July, 2002, at Kisumu, Kenya. In Kenya, an estimated 150,000 ha of land are infested (76 % of farmland in Western Kenya) causing an estimated crop loss valued at about US\$38 million. In sub-Saharan Africa, the value of yield lost annually to *Striga* is estimated at US\$1 billion, affecting the welfare and livelihood of over 100 million people. Heretofore alternative *Striga* control methods have not gained wide acceptance by farmers because they were not cost effective or do not fit well

into the existing cropping systems, including intercropping with sensitive legumes as often practiced by small-scale African farmers.

On the first day, scientists described years of research by CIMMYT in collaboration with the Weizmann Institute of Science (Israel) (with funding from the Rockefeller Foundation) to develop the varieties and the control package for *Striga* control in maize. It combines low-doses (as little as 30 grams/ha) of a systemic acetolactate synthase-inhibiting herbicide such as imazapyr or pyrithiobac as a seed coating with imidazolinone-resistant (IR) maize seed. Field researchers from four east African countries described how the treatment leaves a field virtually clear of emerging *Striga* stalks up to harvest, and allows intercropping with legumes as long as the legume is interplanted between the maize rows at least 12 cm from the treated maize seed. Since the maize seed is treated, there is no need or added cost for spraying equipment and no possibility of off-target application.

The second day was devoted to visiting two experiment stations, and a large number of farmers' fields in heavily infested areas. Huge differences between the treated and non-treated plots were seen at the Kibos experiment station; *Striga* had clearly bewitched the untreated maize but the infested maize was still standing. This was not the case in farmers' fields where almost totally devastated plots of farmers' maize in full *Striga* bloom stood in stark contrast beside clean normal stands of herbicide-treated IR-maize. The herbicide treatments more than tripled yields (on average) when there were more than ten *Striga* plants emerging per square meter in the farmers fields. Even with low infestations, most farmers reported significantly improved yields.

Interviews with the farmers clearly affected the participants, especially when the farmers volunteered that they would pay much more for the technology than the seed producers estimated to charge. Seed companies have already developed a market for quality hybrid maize among subsistence farmers in nearby non-infested areas, and there is a realization for the large market potential where *Striga* is

prevalent. The excitement from seeing was apparent on the third day when seed companies expressed strong interest in acquiring the technology.

The plight of the farmers was not ignored by the regulators who discussed methods of fast-tracking chemical and varietal registrations for the *Striga* hot spots. It is anticipated that IR-maize lines adapted to the *Striga* infested agroecology of western Kenya will be released by CIMMYT to seed companies before the coming season, who will begin the process of certification and bulking up. Meanwhile CIMMYT breeders are developing additional varieties appropriate for other areas in sub-Saharan Africa where *Striga* is endemic.

Fred Kanampiu and Dennis Friesen, CIMMYT, and Jonathan Gressel, Weizmann Institute of Science. The complete article was published in The Haustorium Parasitic Plants Newsletter, Vol. 42, Dec. 2002. Printed here with permission.

Third World Congress on Allelopathy

was held in Japan from August 26-30, 2002 at the Tsukuba Center for Institutes. The host laboratory was the Allelopathy Laboratory, now re-named as the Chemical Ecology Unit. The objectives of this conference were to provide opportunities for researchers studying all aspects of allelopathy and exchange new knowledge, information, ideas, and techniques. The 218 scientists who attended the meeting represented 40 countries and made 79 oral and 118 poster presentations. The congress covered research on allelopathic phenomena in the field, physiological aspects, plant-plant interaction, plant-insect communication, plant-microorganism relationship, identification of new allelochemical, modes of action of allelochemicals, soil-allelochemicals dynamics, management in relation to the environment, application of allelopathy to eco-friendly agriculture. In this forum principles, processes and applications of allelopathy in addition to methodological problems encountered in allelopathic practice were discussed. On the

last day of the congress a discussion was held to examine some of the important and controversial issues in allelopathy. A panel of experts participated in this discussion.

Prepared by Yoshiharu Fuji and Zahida Iqbal, National Institute for Agro-Environmental Sciences (NIAES) and published in the APWSS Newsletter.

Scientific Program for 4th International Weed Science Congress



For more details, see the enclosed circular and this web site:

www.olemiss.edu/orgs/iws/4intlweedcong.htm

Main session topics are as follows:

1. Application, Formulations and Adjuvants
2. Aquatic Weed Management
3. Biological Control
4. Education and Technology Transfer
5. Environmental Fate of Herbicides
6. Graduate Student Presentations
7. Herbicide-Resistant Crops
8. Herbicide-Resistant Weeds
9. Integrated Weed Management and IPM
10. Integrated Weed Management in Major Crops
11. Invasive, Alien Weeds
12. Molecular and Biotechnological Approaches in Weed Science
13. Natural Products and Allelopathy
14. New Approaches in Herbicide Mode-Of-Action
15. Parasitic Weeds : Biology and Management
16. Physical Approaches in Weed Management
17. Precision Agriculture and Weed Science
18. Professional Excursions
19. Regulatory and Public Health Aspects
20. Socio-Economic Aspects
21. Weed Biology and Ecology
22. Weed Management in Forests
23. Weed Management in Minor Crops
24. Weed Management in Organic Farming
25. Weed Management in Turf, Right of Ways, and Public Areas

Coming Events

2003

- Feb. 9-12 Weed Science Society of America annual meeting;** Jacksonville, Florida USA
 Contact: Joyce Lancaster, Exec. Sec. WSSA, P.O. Box 7050 Lawrence, KS 66044 USA
 Email: jlancaster@allenpress.com tel.: 785 843-1235, extn. 250 FAX: 785-843-1274
- Mar 17-21 19th Asian Pacific Weed Science Society Conference,** Manila, Philippines
 Contact: Mr. Lorenzo Fabro, National Crop Protection Center, Univ. of the Philippines, Los Baños, College, Laguna, Philippines FAX: 6349-536-2409
 emails: lfabro@yahoo.com; or: amb@mudspring.uplb.edu.ph
- Apr 27- May 2 11th Symposium on Biological Control of Weeds,** Canberra, Australia
 Contact: Sharon Corey; tel: (02) 6246 4136; Fax: (02) 62464177; Email: sharon.corey@ento.csiro.au
 Web: <http://www.ento.csiro.au/weeds2003/index.html>
- May 6-9 7th EWRS Mediterranean Symposium,** Adana, Turkey
 Contact: c/o Çukurova University, Agricultural Faculty, Dept. of Plant Protection, TR-01330 Adana-TURKEY Tel: +90-322-338-6755, Fax: +90-322-338-6437; E-mail: nuygur@mail.cu.edu.tr or suygur@mail.cu.edu.tr
- July 6-11 15th International Plant Protection Congress,** Beijing, China
 Contact: Wen Liping, IPPC Secretariat, Insti. Plant Protection, Chinese Academy Agric. Sci., #2 West Yuanmingyuan Rd., Beijing 100094, China. FAX: 86 10 62895451; email: csp@ipmchina.cn.net; Web: <http://www.ipmchina.net/ippc>
- Nov. 3-7 7th International Conference on Ecology & Management of Alien Plant Invasions,** Ft. Lauderdale, Florida, USA. Information on the Web at: <http://www.esa.org/ipinams-emapi7/>; email: ipinams@esa.org
- Nov. 17-20 Brighton Crop Protection Conference 2003, Weeds,** Brighton, UK
 Contact: BCPC Ltd., 49 Downing St., Farnham, Surrey GU9 7PH UK
 Email: md@bcpc.org; Web: <http://www.bcpc.org/>

2004

- Feb. 7-11 Weed Science Society of America annual meeting;** Kansas City, Missouri USA
 Contact: Joyce Lancaster, Exec. Sec. WSSA, P.O. Box 7050 Lawrence, KS 66044 USA
 Email: jlancaster@allenpress.com tel: 785 843-1235, extn. 250 FAX: 785-843-1274
- June 19-25 International Weed Science Congress;** Durban, South Africa
 Contact: Scientific Program Co-chairs, Baruch Rubin (rubin@agri.huji.ac.il) or Charlie Reinhardt (creinhar@nsnper1.up.ac.za) Web site: <http://www.olemiss.edu/orgs/iws/4intlweedcong.htm>

The **IWSS Newsletter** is published in January and July to foster communication among and give information to our members and others around the globe interested in Weed Science.

Thanks to these contributors to the January 2003 issue: Steve Duke, Fred Kanampiu, Jonathan Gressel, Dennis Friesen, Anis Rahman and the secretary of the APWSS, Fluer van Dijl, Raj Prasad, Ricardo Labrada, Yoshiharu Fuji, Zahida Iqbal and Jerry Doll.

Deadline for items for the next Newsletter is 15 June 2003

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Application for Membership in the International Weed Science Society

Membership in the International Weed Science Society (IWSS) is open to individuals of all nations interested in any aspect of weeds and their management. Payment of dues entitles active members to voting privileges and receipt of the IWSS Newsletter and Membership Directory.

Membership fees are:

Individual Membership, US \$10.00 annually

Affiliate Membership (for companies, institutions, and national and regional weed science societies) US \$50.00

Lifetime Membership, US \$200.00.

Circle the type of Membership you wish to have: Individual, Affiliate, Lifetime

Payment must be in U.S. currency. **Credit card payments cannot be accepted.**

Your name _____
 Company/Organization _____
 Address _____

 City _____
 State/Zip/Country _____
 Phone _____ Fax _____ Email _____

Amount enclosed \$ _____

Mail your check payable to the International Weed Science Society and mail to one of three people:

1. In North America:

Stephen O. Duke
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 University, MS 38677 USA

2. In the rest of the World :

Bernal E. Valverde
 The Royal Veterinary & Agricultural University
 Weed Science
 Agrovej 10, DK-2630 Taastrup, Denmark

3. To your national correspondent or regional representative in local currency. We have such representatives for South America, Central America and the Caribbean, the Middle East and North Africa, West and Central Africa, East and Southern Africa, West Europe, East Europe, India and South and SE Asia, and Central and North Asia. Their names and addresses are found on the IWSS Web site:
www.olemiss.edu/orgs/iws/DEFAULT.HTM.

Click on "organization" to find the one for your region.