

# Asian-Pacific Weed Science Society

## NEWS LETTER

June 2009

Volume 2: Issue 2

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### **22<sup>nd</sup> APWSS Conference Postponed until March 2010**

**The Organising Committee of the 22nd Asian Pacific Weed Science Conference has announced that the Conference will be postponed until March 2010.**

**The Conference will now be held during 8-12 March 2010.**

**The Venue will be Government College (G.C.) University, Lahore, Pakistan.**

**The Conference Theme is:**

***Judicious Weed Management- Road To Sustainability***

**A website has been set up for the Conference in Pakistan, [www.wssp.org.pk](http://www.wssp.org.pk)**

**All Members and interested parties are encouraged to participate by sending in papers for consideration by the Organizing Committee. The Conference is jointly sponsored by APWSS and the Pakistan Weed Science Society.**

### **Contents of this Newsletter:**

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- Two eminent Weed Scientists retire
- Announcement from Weed Biology & Management, Japan
- 17<sup>th</sup> AWC Conference to be held in Christchurch, NZ in 2010 announced
- 27<sup>th</sup> Brazilian Weed Congress to be held in Ribeirão Preto, Brazil in 2010 announced
- International Workshops on Biological Control and Management of *Chromolaena odorata*, other Eupatorieae and Parthenium - announced
- News from Members and Countries
- Research Report from Iran
- Ph.D. Thesis Abstract from Pakistan – Dr. Imitiaz Khan
- News about forthcoming Conferences
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## IMPORTANT DATES (Re-scheduled)

Abstract Deadline	30 September 2009
Acceptance of Abstract	30 October 2009
Full Paper Submission	30 November 2009
Conference	8-12 March 2010

### Topics to be covered:

<ul style="list-style-type: none"><li>• Weed biology, weed ecology and systematics</li><li>• Integrated weed management</li><li>• Weed physiology</li><li>• Chemical weed control</li><li>• Biological weed control</li><li>• Parasitic weeds</li><li>• Herbicide resistance</li><li>• Weed seed dormancy and soil seed banks</li></ul>	<ul style="list-style-type: none"><li>• Species shift and herbicides</li><li>• Invasive weeds and agro-biodiversity</li><li>• Aquatic weed management</li><li>• Allelopathy</li><li>• GMO's</li><li>• Weed management in agronomic and horticultural crops</li><li>• Weed management in turfs and forests</li></ul>
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### Registration Fees

**Early registration:** US \$ 300

**Late registration:** US \$ 350

**Students:** US \$ 150

### Contacts:

- Prof. Dr. Gul Hassan, General Secretary APWSS  
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## APWSS Financial Status Report

Steve Adkins, President-Elect and out-going Treasurer of APWSS has provided an update of the financial status of our Society (Thanks, Steve).

This report covers the period from 1 October 2007 up to May 2009. Members would be pleased to know that the finances are in a healthy state, as Steve hands over to Michael Renton, the current Treasurer. The details are as follows:

### (A) Local Account (Term Deposit)

*(Term Deposit was renewed for a further 12 months on 3 September 2008 at 7.00%)*

ANZ Bank Term Deposit (Australian Dollars) (account matures September 2009)	
Opening balance at 1 October 2007	\$ 13,619.13
Add Interest – at 01/05/2009	\$ 486.10
Balance on 01/05/2009	\$ 14,105.29

**(B) Local Account (Cheque)**

Opening balance at 1 October 2007	\$ 3,787.86
Add – Income from membership – Sri Lanka Conference	\$ 260.00
Deduct – Bank Fees	\$ 235.00
Deduct – Travel support to attend Conference (Karim & Baltazar)	\$ 1225.00
Deduct – Loan for Local Organizing Committee, 23 <sup>rd</sup> APWSS Conf 2011 (Cairns)	\$ 1000.00
<b>Balance on 01/05/2009</b>	<b>\$ 1587.86</b>

**(C) ANZ Bank US Dollar Account (Term Deposit)**

*(Term Deposit was renewed for a further 12 months in Sep 2008; Account matures in Sep 2009)*

ANZ Bank Term Deposit (US Dollars) (matures September 2009)	US Dollars
Opening balance at 1 October 2007	\$ 20,218.15
Add Interest – at 01/05/2009	\$ 538.71
<b>Balance on 01/05/2009</b>	<b>\$ 20,756.88</b>

**(D) Summary**

	Aus \$	US \$ (approximate)
1. Term Deposit (Australian Dollars)	\$ 14,105.29	\$ 10,371.54
2. Cheque Account (Aust Dollars)	\$ 1,587.86	\$ 1,167.54
3. ANZ Bank Term Deposit (US Dollars)	-	\$ 20,756.88
4. Loan for 23 <sup>rd</sup> APWSS	\$ 1,000.00	\$ 735.30
<b>Total</b>		<b>\$ 33,031.24</b>
<i>(transfers done at 1 AUD\$ = 0.735 US\$)</i>		

**(E) Historical**

COUNTY MEETING	Approximate funds before that meeting (US \$)
Australia 1993	11, 378
Japan 1995	25,329
Malaysia 1997	23,924
Thailand 1999	27,128
China 2001	26,543
Philippines 2003	26,802
Vietnam 2005	31,718
Sri Lanka 2007	32,498
Pakistan 2009	33,031

## Two eminent Weed Scientists retire

Two eminent weed scientists, who have been long associated with the APWSS, retired recently. They are: Professor K. U. Kim of Korea and Dr. Ricardo Labrada, Weed Specialist, FAO.

I am sure that the current APWSS Ex-Co, past associates of these two scientists and the general APWSS membership acknowledge the significant contributions they made to the field of Weed Science.

Given below are brief details of their careers and contacts, for the benefit of our membership.

### Professor Kil-Ung Kim

Professor Kim retired from the Kyungpook National University, Daego, South Korea, last year and is now Emeritus Professor.

He informs the Society that although he is not active in research, he has assumed several other significant positions in Korea.

These include the following:

- President of Yeungnam Tea Corporation, and Co-president of Agribusiness Forum,
- Senior Research Fellow of Globalization Research Institute, and
- A concurrent professor of Yanbin University, China.

He also informs us that he is as busy as he was when he taught in the classrooms. He is also working as a Senior Advisor and Consultant to the Korean Government, in projects associated with agricultural development, weed science and human development in the Asia-Pacific region.



Professor K. U. Kim

Writing to many of his APWSS colleagues and friends, Professor Kim expressed his sincere appreciation for the cooperation extended to him in weed science works over the past 20 years.

Most of us are aware of his mighty contribution to Weed Science in the Asia-Pacific region. He is well published, and has a number of books to his credit as well. He says that he is grateful for the cooperation of APWSS Members, with which he was able to publish several books and informative publications, which would be useful to Weed Science research.

Professor Kim's e-mail address is the same as previous ([kukim@knu.ac.kr](mailto:kukim@knu.ac.kr)).

His mobile/hone number is **+82-(0)11-9587-9944**.

Professor Kim is encouraging APWSS Members and others to contact him directly any time, particularly if visiting or needing any help from Korea.

### Dr. Ricardo Labrada, Weed Specialist, FAO

Dr. Labrada, known to most APWSS members, notified that after 18 years service at the FAO, he has reached the retirement stage. He is not retiring professionally, and will continue to work either in FAO, or in other UN agencies and institutions, who might be interested in his knowledge accumulated in work mainly in developing regions of the world and in tropics and sub-tropics. The following details, provided by Dr. Labrada, are published with some editing.

During a period of 18 years at the FAO, Dr. Labrada was the lead technical officer of all weed projects and activities of the regular programme of the organization. He provided leadership to many regional projects, such as the following:

- *Striga* management in Africa South of Sahara;
- *Orobanche* management in faba beans for North Africa and Near east countries;
- A national project for Kenya on *Prosopis* management;
- A regional project for Central America and Caribbean on *Rottboellia cochinchinensis*;
- Water hyacinth management - projects for Niger, East Africa, where another long-term project was formulated for Lake Victoria later executed by the World Bank;
- Water Hyacinth management projects in Cuba; Tarija, Bolivia; Uganda, Mali, Ghana, Volta Basin, Niger River, Sri Lanka and China; and
- A project on *Salvinia molesta* control in Senegal River, using the bioagent *Cyrtobagous salviniae*.



Dr. Ricardo Labrada

In all these projects, specific exotic control agents were introduced, training of the personnel on biocontrol and other control measures of Water Hyacinth, units for insect rearing, etc. set up. In the case of China, the project had broader aspect of utilization of the plant.

Dr. Labrada was involved in a weed management project in Mongolia. Within its framework, national personnel were trained on improved weed management and a book on Major Weeds of Mongolia was prepared and published. A similar project was conducted in Togo, which surveyed major weed problems in this West African country, set up farmers' training on weeds in several sites where rice and sorghum are grown. Togo was the first place where farmers' field schools (FFS) for *Striga* control were organized. Another outcome was the publication of an illustrated booklet on major weeds of Togo in French.

He was also involved with 'Weedy rice' management project for Central America and the Caribbean with the participation of six countries, where 25 technicians, two FFS and 50 farmers per each country were trained on suitable management practices for the control of the weed. He also conducted a project on African tulip tree (*Spathodea campanulata*) control.

Dr. Labrada organized important international meetings and panel of experts, such as (a) Water Hyacinth control in Fort Lauderdale, USA (1995); (b) Weed ecology and management, Rome (1998); (c) Weed risk assessment, Madrid (2002).

In addition, he was involved in organizing training workshops on weeds, such as:

1. 1995 - Soil solarization, Zamorano, Honduras, for Central America and the Caribbean;
2. 1998 - Water hyacinth control in Cuernavaca, Mexico, for selected Latin American countries;
3. 1999 - Benefits and risks of Herbicide-Resistant crops, Rome;
4. 2003 - Prevention of herbicide resistance, Turin, Italy;
5. Regional Weed risk assessment training: Zamorano, Honduras, for Central America and the Caribbean (2004) and Panama City (2007), for Asia, Annamalai (2007), for South America, Colonia, Uruguay (2008), for North Africa and Near East, Al Bayda, Libya (2009).
6. Regional weed ecology courses in Lima, Peru (1998), Bangkok, Thailand (1999), Amman, Jordan (2001) and IPM Cotton regional project, Dagupan, Philippines (2002).

Dr. Labrada coordinated the work for the preparation and publication in three languages of the procedure "risk assessment of ecological impact of herbicide and insect resistant crops-focus on weeds" (2004), as well the one on "weed risk assessment" (2005).

He also conducted survey on weed management status in more than 60 countries (1990-93), work presented in Denmark world weed congress. The information on weeds/crops served for the creation of FAO weed database.

He also was in charge of the FAO activities related to methyl bromide, which were conducted with UNEP. He was again the lead technical officer of a global project in 1999-2003, where farmers' training activities were organized in Brazil, Ecuador, Guatemala and Kenya. The result of the work in Kenya brought a reduction of more than 100 ton of the fumigant, which was replaced by the use of bio-fumigation in areas of carnation.

Another similar project was conducted for East Europe (2005-07). During the period 1991-94, Dr. Labrada was also responsible of projects for strengthening plant protection services in least developed countries, such as Rwanda and Burundi.

Other highlights are:

- From 1999- 2005, he imparted the set of lectures on weed management for the M. Sc. plant protection course at the Istituto Agronomico Mediterraneo, CIHEAM, Bari, which had the participation of students from Arab countries, China, ex-Yugoslavia, Albania and several others.
- Dr. Labrada was the main editor of FAO publications "Weed Management for Developing Countries" (1994), "Weed Management for Developing Countries, Addendum I" (2003), author of "Recommendations for improved weed management" (2006) and other various published technical reports of the FAO meetings on weeds, including the FAO web pages arts on weeds and methyl bromide.
- He prepared the manual for extension workers and farmers on participatory training – Alternatives to methyl bromide for soil fumigation, and the book "Global report on validated alternatives to the use of methyl bromide for soil fumigation", both in 2001.
- He acted as President of International Weed Science Society (1998-2000), and member of the organizing committees of the II, III, IV and V International congresses in Copenhagen, Foz Do Iguacu Durban and Vancouver, respectively.
- In 2005 was awarded as Honorary Fellow of the Indian Weed Science Society, and in 2008 as Honorary Member of Weed Science Society of America.

If anybody is interested in contacting Dr. Labrada, his e-mail is: [ricardolabrada@hotmail.com](mailto:ricardolabrada@hotmail.com).

## Announcement from the Editor-in-Chief, Weed Biology and Management

Dr. Tohru Tominaga, Editor in Chief of "Weed Biology and Management" has sent a request for the weed science community to publish papers in the journal.

As APWSS Members are aware, this prestigious international journal is the official English-language journal of the Weed Science Society of Japan (WSSJ). It is published with cooperation and encouragement of many of the national weed science societies affiliated with the Asian-Pacific Weed Science Society (APWSS).

Contributions from weed scientists in the Asian-Pacific region are particularly welcomed.

You are requested to visit the website ([http://wssj.jp/journal/Instructions\\_for\\_Authors\\_2009.pdf](http://wssj.jp/journal/Instructions_for_Authors_2009.pdf)) for more information. Or else, you could contract the Editor-in-Chief directly, His contact details are:

Dr. Tohru TOMINAGA

Editor-in-Chief, Weed Biology & Management

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E-mail; [tominaga@kais.kyoto-u.ac.jp](mailto:tominaga@kais.kyoto-u.ac.jp) or <http://www.weed.kais.kyoto-u.ac.jp/>

Dr. Tominaga has sent the following information regarding contents of the current issue of the Journal.

### Contents of Weed Biology and Management, Volume 9, Issue 2

#### REVIEW PAPER

- Biology of milk thistle (*Silybum marianum*) and the management options for growers in north-western Pakistan (p 99-105) - MUHAMMAD AZIM KHAN, ROBERT E. BLACKSHAW, KHAN B. MARWAT

#### RESEARCH PAPERS

- Effects of nitrogen fertilization and cutting height on the forage yield and feeding value of *Eleusine indica* in the dry season in Nepal (p 106-111) - PRAJWAL R. REGMI, NABA R. DEVKOTA
- Parasitic weeds of the Orobanchaceae family and their natural hosts in Jordan (p 112-122) - JAMAL R. QASEM
- Invasiveness evaluation of fireweed (*Crassocephalum crepidioides*) based on its seed germination features (p 123-128) - GUO QI CHEN, SHUI LIANG GUO, QIU SHENG HUANG
- Effect of the sowing date on the growth of hairy vetch (*Vicia villosa*) as a cover crop influenced the weed biomass and soil chemical properties in a subtropical region (p 129-136) - FAJRI ANUGROHO, MAKOTO KITOU, FUJIO NAGUMO, KAZUTOSHI KINJO, YOSHIHIRO TOKASHIKI
- Pollinators of the invasive plant, yellow starthistle (*Centaurea solstitialis*), in north-eastern Oregon, USA (p 137-145) - JAMES MCIVER, ROBBIN THORP, KAREN ERICKSON
- Allelopathic potential of wild onion (*Asphodelus tenuifolius*) on the germination and seedling growth of chickpea (*Cicer arietinum*) (p 146-151) - BABAR H. BABAR, ASIF TANVEER, MUHAMMAD TAHIR, AHSAN AZIZ, AZRAF-UL HAQ AHMAD, MUHAMMAD A. NADEEM, MUHAMMAD M. JAVAID
- Competitive effects of redroot pigweed (*Amaranthus retroflexus*) on the growth indices and yield of corn (p 152-159) - KAVEH SHEIBANY, MOHAMMAD ALI BAGHESTANI MEYBODI, ALIREZA ATRI
- Impact of cropping systems on the weed seed banks in the northern Great Plains, USA (p 160-168) - KRISTIN S.B. HARBUCK, FABIAN D. MENALLED, FREDRIC W. POLLNAC

#### TECHNICAL NOTES

- Identification and activity of ethyl gallate as an antimicrobial compound produced by *Geranium carolinianum* (p 169-172) - ATSUSHI OOSHIRO, SYUNTARO HIRADATE, SHINJI KAWANO, TETSUYA TAKUSHI, YOSHIHARU FUJII, MASAHIRO NATSUME, HIROSHI ABE
- Response of black, cranberry, kidney, and white bean to linuron (p 173-178) - PETER H. SIKKEMA, SHARAREH HEKMAT, CHRISTY SHROPSHIRE, NADER SOLTANI
- Proper adjuvant selection to enhance the activity of triclopyr combined with metsulfuron on the control of *Hedyotis verticillata* (p 179-184) - CHUAH TSE-SENG, ANNE MARIE KABEN, CHA THYE-SAN

### **17<sup>th</sup> Australasian Weeds Conference to be held in Christchurch, NZ in 2010 announced**

The 17<sup>th</sup> Australasian Weeds Conference, sponsored jointly by the New Zealand Plant Protection Society Inc and the Council of Australian Weed Societies Inc, has been announced. This would be held in Christchurch, NZ. The theme of the Conference is 'New Frontiers in New Zealand'.

The dates for the Conference are- **26-30<sup>th</sup> September 2010**. Contact details for further information are:

The Conference Secretariat, Professional Development Group,

PO BOX 84, Lincoln University, Canterbury, 7647, NZ

The Website: [www.17awc.org](http://www.17awc.org) is available for more information.

### **27<sup>th</sup> Brazilian Weed Science Society Congress to be held in Brazil in 2010 announced**

The XXVII<sup>o</sup> Brazilian Weed Science Society Congress has been just announced. This would be held in Ribeirão Preto, São Paulo State, Brazil, during 19<sup>th</sup> to 23 July 2010. Ribeirão Preto is one of the important regions of Brazilian Agribusiness, mainly because it is the sugar-cane and bio-energy capital in Brazil. It is also a large business city, with good hotels, facilities and a good airport. The congress will focus on many key issues related to managing weeds, which are current and real.

Dr. R. A. Pitelli, the Congress Chairman ([rapitelli@ecosafe.agr.br](mailto:rapitelli@ecosafe.agr.br)) invites all interested parties and international weed scientists to participate, in order to make the meeting a success.

### **International Workshops on Biological Control and Management of *Chromolaena odorata*, other Eupatorieae and Parthenium to be held in Nairobi, Kenya in 2010 announced**

The 8<sup>th</sup> International Workshop on Biological Control and Management of *Chromolaena odorata* and Other Eupatorieae has been announced, to be held in Nairobi, Kenya, in October, 2010. This workshop is to be organized under the auspices of the IOBC, and will be hosted by CABI.

The workshops had been initiated in 1988 to facilitate the management and biological control of *Chromolaena odorata* in resource-poor tropical and subtropical countries. In 2003, the scope of the workshop was expanded to include closely related species such as *Mikania micrantha*, while retaining an emphasis on the tropics. Kenya has been selected as the host country for this 8<sup>th</sup> workshop, the third held in Africa, because *C. odorata* has recently been recorded there and in other countries in East Africa for the first time. The entire region has been shown to be highly climatically suitable for the weed. Because tourism is the main foreign currency earner in Kenya, and the biggest employer is the agricultural sector, the threat of *C. odorata* is very real.

The above Workshop will be combined with a Workshop on Management of *Parthenium hysterophorus*, which is spreading in Africa and Asia, causing similar problems to those already experienced in Australia and India, by impacting on agriculture (crops and grazing), biodiversity conservation, and human and animal health.

Research on Parthenium and its management has been conducted over several decades in Australia and India. In Africa, awareness of Parthenium is limited, but currently some research efforts on the impacts and management of this weed are being undertaken in South Africa, Ethiopia and Uganda, through various nationally-supported programmes and/or international initiatives such as USAID IPM CRSP and GEF/UNEP. Research on Parthenium is also being undertaken in Pakistan, Bangladesh, Nepal and Vietnam and research in Australia and India is still ongoing. In 2009 an International Parthenium Weed Network (IPaWN) was initiated, coordinated by the University of Queensland, Australia.

The intended purpose of the Workshop in 2010 is to bring together international researchers working on parthenium, to disseminate information on the weed and its management, and to increase collaboration amongst researchers regionally and globally, to optimise resources for the control of this weed. Additionally, it is hoped that this workshop will raise awareness of Parthenium weed for countries that are at risk, or that are in the early stages, of invasion by this weed.

Expressions of interest are being sought from interested in attending the combined Workshops by no later than 30 September 2009. The contacts are: Costas Zachariades, [ZachariadesC@arc.agric.za](mailto:ZachariadesC@arc.agric.za) or ARC-PPRI, Private Bag X6006, Hilton, South Africa, 3245, fax +27 33 355 9423.

Additional information could also be obtained from Asad Shabbir ([asad@uq.edu.au](mailto:asad@uq.edu.au)), Network Coordinator (IPaWN), The University of Queensland, Australia.

## 12th IUPAC International Congress of Pesticide Chemistry to be held in Melbourne, Australia in July 2010 announced

The 12th IUPAC-ICPC Congress will be held in-conjunction with [the Royal Australian Chemical Institute's National Convention](#).

The Congress will begin with a Welcome Reception late on Sunday 4th of July 2010, continuing over the next four days with a world class scientific program. The venue is the new Melbourne Convention and Exhibition Centre located on the banks of Melbourne's Yarra River in the heart of the city.

The program of the 12th IUPAC-ICPC will host an extensive scientific program with world leading plenary speakers and symposia plus an extensive poster display and sessions to encourage interaction within the scientific community.



Under the main theme "**Chemistry for a Sustainable World**", the congress will include the following themes:

- Emerging Issues
- Pest Management and Crop Protection and Vector Control
- Regulatory and Residue
- Formulation and Delivery
- Environmental Fate and Safety Assessment.

Further information at: [www.iupacicpc2010.com](http://www.iupacicpc2010.com)

## News from Members and Countries

### News from Australia

#### Hydrogel wins ABC TV's New Inventor's Episode

Peter Harper ([peter@bettersafe.com.au](mailto:peter@bettersafe.com.au)), from Bettersafe Pest & Weed Management, the distributor of Hydrogel for submerged aquatic weed management in Australia, sent the following information.

the new inventors  
ABC Television

TV HOME

Inventions

ALL INVENTIONS FROM THIS EPISODE

NEW INVENTORS HOME

INVENTIONS

- Browse Inventions
- Categories
- Features
- Vote for People's Choice

SPECIALS

VIDEO

BRIGHT SPARK AWARD

MESSAGE BOARD

RESOURCES

ABOUT US

CONTACT US

SUBMIT AN INVENTION

Hydrogel

1:05 1:05 HIGH LOW

Windows Media - Fast - Slow

HYDROGEL invented by Peter Harper  
(Winner and people's choice)

OVERVIEW INSPIRATION HOW IT WORKS

Category: environment

- AquaKerb
- Aqualim
- Bak Tape
- Bed Bug Barrier
- Bio Cube
- Bio-pod
- Biosol

Episode 04, 2009 index

Recently, 'Hydrogel' was the Episode Winner and winner of People's Choice on the Australian ABC TV's New Inventors Programme.

This was in recognition of the potential environmental benefit that can be achieved with the use of Hydrogel for aquatic weed management.

The use of Hydrogel, essentially, an inert substance, Guar Gum), will decrease the amount of herbicide (mainly, Diquat, Reglone®), required in water to manage submerged aquatics.

Research to optimise the effectiveness of Hydrogel treatments to manage a variety of submerged aquatic species is continuing in Australia.

Picture shows Peter Harper in the ABC New Inventor's programme. The winning episode is available for viewing by clicking on the following link: [www.abc.net.au/tv/newinventors/txt/s2494979.htm](http://www.abc.net.au/tv/newinventors/txt/s2494979.htm)

Additional information on Hydrogel and current projects in NSW and Queensland, Australia, can be obtained by visiting the Web Site: [www.hydrogel.com.au](http://www.hydrogel.com.au) or by contacting Peter Harper directly

## International Parthenium Weed Network (IPaWN)

Steve Adkins ([s.adkins@uq.edu.au](mailto:s.adkins@uq.edu.au)) sent the following news item on the formation of the International Parthenium Network.

We are pleased to announce the creation of the International Parthenium Weed Network (IPaWN) - An International network of expert volunteers devoted to creating awareness about the parthenium weed threat, and to sharing information on how to reduce its adverse impacts upon agro-ecosystems, the environment and human health.

The Network will start its existence with over 50 members, coming from 22 countries, and we anticipate significant expansion in the coming months as more people join the network. If you are not already a member of the network and wish to join please contact the network coordinators, given below.

IPaWN was an initiative of the Tropical and Sub-tropical Weed Research Unit (TSWRU), The University of Queensland, Australia. In 2009 and with research involvement in three continents, the TSWRU started to develop information packages on the weed and to send it out to more than 25 countries that have or are at threat of having the weed. After an over-whelming positive response to this circulation of information the value of setting up an international network became obvious.

IPaWN's mission is to coordinate and disseminate information regarding the global invasion of parthenium weed, its diverse impacts on agro-ecosystems, the environment and human health, and its management. The goal of the network is to create an online community to support international collaboration on the Parthenium weed problem and its management.

The objectives are to:

- (1) Facilitate the exchange of information about parthenium weed and its management;
- (2) Link different regional working groups, institutions and other stakeholders with an interest in parthenium weed and its management;
- (3) Document new out breaks of the weed and to recommend strategies to reduce further spread in those regions; and
- (4) Identify topics deserving of new research and to provide access to on-line resources such as identification kits, best management practice documents etc.

Meetings of IPaWN are likely to be timetabled to coincide with major international conferences such as those of the International Weed Science Society, the Asian Pacific Weed Science Society and the International Parthenium Weed Management Conferences.

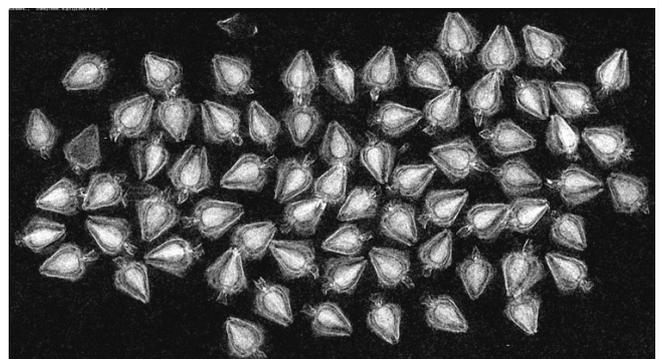
The Australian Parthenium Weed Research Group and the Pakistan Parthenium Research Group will produce a joint 'International Parthenium News' newsletter (to be published at the University of the Punjab, Lahore). Contributions for the first issue in 2009 are now invited.

The Network contacts are:

Professor Steve Adkins and Mr. Asad Shabbir, TSWRU, School of Land, Crop and Food Science  
The University of Queensland, St Lucia, 4072, QLD. Australia.



**Parthenium flowers**



**X-ray images of Parthenium fruit showing filled and unfilled seeds**

## News from Bangladesh

In the January 2009 Newsletter, we provided an important bit of information from Bangladesh - that the **Weed Science Society of Bangladesh (WSSB)** has been formed in August 2008.

Professor Dr. S. M. Rezaul Karim ([rkarimbau@yahoo.com](mailto:rkarimbau@yahoo.com)) has now provided an update of the Society's meetings and deliberations, which are given below.

### Scientific meetings of Weed Science Society of Bangladesh (WSSB) held

The first and second meetings of WSSB were held on 23 January and 20 February 2009, respectively, at Sher-e-Bangla Agricultural University (SAU), Dhaka. The meetings were presided by Dr. Md. Hazrat Ali, Professor of Agronomy, SAU and President of WSSB.

At the first meeting a scientific presentation on "**Siam Weed: An Invasive Biological Pollutant in Bangladesh**" was made by Prof. Dr. S.M. Rezaul Karim, Department of Agronomy, Bangladesh Agricultural University (BAU), Mymensingh and General Secretary of WSSB. He discussed the problems caused by Siam weed (*Chromolaena odorata*, Family: Asteraceae), a notorious environmental weed, which may cause severe allergenic effects in human and cattle health.



First meeting of Executive Committee, WSSB

In humans, asthma, skin allergy and poisonous wounds in the feet may occur to the peoples who come in contact of the weed, and in cattle, severe toxicity may develop in the stomach when cattle consume the weed.

In a preliminary survey, Prof. Karim marked that a vast area of land, especially roadsides in Mymensingh and Dhaka districts are infested with the weed. Some infestations were also noted in the Bandarban area of Chittagong Hill Tracts district.

Prof. Karim also emphasized the need for detailed surveys to identify the total outbreaks in the country, risk assessment of the weed for inclusion in the list of noxious weeds and detailed studies for its sustainable management.

The outcomes agreed at the meetings are summarised below

1. The society will publish a high quality journal in a half-yearly basis on Weed Science in the name of "**Bangladesh Journal of Weed Science**". An Editorial board, including Prof. Dr. M.A. Samad, Department of Agronomy, BAU as the Chief Editor and Prof. Dr. Parimal Kanti Biswas, Department of Agronomy, SAU as the Executive Editor, has been formed. **Call for papers** has already been circulated to different media in the country and elsewhere.
2. The recommendations of the first national conference and seminar of WSSB, which was held on 08 November 2008 at BARC, Dhaka, have been finalized to hand it over to the appropriate authority of Bangladesh for implementation in the country as below:

#### General Recommendations

- Weed research should be emphasized in order to achieve sustained food security in Bangladesh;
- A National Weed Research Center should be established with all facilities for advanced research on Weed Science; All agricultural research institutes e.g. BARI, BRRRI, BINA, BJRI, BSRI, BTRI, FRI etc. should have a section/division for Weed Research;



Members of Executive Committee, WSSB



Presentation by Prof. Karim

- A National Weed Management and Monitoring Committee (WMMC) should be formed who will take care of management and continuous monitoring of invasion of noxious weeds in the country
- Government of Bangladesh should take special steps for management of newly introduced invasive weeds, for example Parthenium weed in Jessore, which is a threat for Bangladesh in respect of food security and bio-safety;
- Rules and regulations for Weed Quarantine and Weed Acts should be erected by the government soon;
- Awareness should be created among the peoples of the country through different media about severe bad effects of noxious weeds; and
- In the elementary and high school education curriculum a chapter on weeds should be introduced and be included as a compulsory lesson. In tertiary level (B.Sc. Ag/B.S. Ag and M..S) the curriculum should be amended to make it more need based.

**Specific recommendations**

- Risk assessment of important weeds should be done and a list of the noxious weeds in the country should be prepared;
- Reassessment of yield loss due to weed competition in different crops to be done to update the present status on impacts of weeds on the national economy;

- The herbicides which are being used by the farmers should be evaluated for their residual effects on environment specially on soil, water and crop products to ascertain their risks, if any; and
- Weed identification manuals should be prepared with coloured photographs for using by the researchers, agricultural officers, extension personnel, agricultural students and the farmers.

3. The members of WSSB have decided to participate in the bidding for hosting the 24<sup>th</sup> APWSS conference in Bangladesh. Bangladesh is a beautiful country with a lot of green scenery. All kinds of facilities for hosting an international conference are available in the country.

The President and General Secretary of the society will try to participate the 22<sup>nd</sup> APWSS conference to be held in Pakistan in October 2009 and they will join the bidding there in time.

4. A standard website of the society will be developed soon from where all the updates of activities of WSSB can be seen.

## News from India

Dr. Kannan Chinnaswami, Senior Plant Pathologist, Indian Council of Agricultural Research, Ministry of Agriculture in India sent the following information.

- The National Research Centre for Weed Science (NRCWS), Jabalpur has been upgraded to the status of Directorate and will henceforth be known as Directorate of Weed Science Research (DWSR) with effect from 27<sup>th</sup> January, 2009. Accordingly, the AICRP centres will be called as DWSR centres.
- The Director, DWSR, has been nominated as member in a. Review Committee on Genetic Manipulations (RCGM) for a period of three years and to the Core group of Experts of the Integrated National Biosecurity System, Ministry of Agriculture, Government of India.
- DWSR, Jabalpur will be the head quarters of the Indian Society of Weed Science (ISWS).
- The Society has brought out its **Indian Journal of Weed Science**, issue Volume-40, number 1&2, January – June, 2008, published from Jabalpur.

Research papers for publication in the Journal may be sent to the following address:

The Secretary, Indian Society of Weed Science, NRCWS, Jabalpur – 482 004, Madhya Pradesh

Research Papers for publication may also be sent through E-mail to [iswsjbp@gmail.com](mailto:iswsjbp@gmail.com)

For more information on this news items, please contact:

### Dr. C. Kannan

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## News from Japan

Dr. Tohru Tominaga ([tominaga@kais.kyoto-u.ac.jp](mailto:tominaga@kais.kyoto-u.ac.jp)), Editor in Chief of "Weed Biology and Management" has sent the following information regarding the best paper of the Journal in 2007.

### Announcement from Weed Biology and Management

#### The Best Paper Award of the Weed Biology and Management for 2007

The Weed Science Society of Japan confers the Best Paper Award of the Weed Biology and Management on the following authors for their excellent paper, published in *Weed Biology and Management* in 2007, based on the recommendation of the Committee for the Best Paper Award of the Journal.

#### ***"Formulation and adjuvant effects on the absorption and translocation of <sup>14</sup>C-clethodim in wheat (*Triticum aestivum* L.)", Vol. 7, No.4: 226-231.***

Vijay K.Nandula, Daniel H.Poston, Krishna N.Reddy and Clifford H.Koger

A new formulation of clethodim { (E,E)-(±)-2-(1-[[[3-chloro-2-propenyl]oxy]imino]propyl)-5-(2-[ethylthio]propyl)-3-hydroxy-2-cyclohexen-1-one) is labeled for the control of grasses and volunteer grass crops, including glyphosate-resistant corn. The effects of the formulation (new: 0.12 kg L<sup>-1</sup> and current: 0.24 kg L<sup>-1</sup>) and adjuvants (ammonium sulfate [AMS], crop oil concentrate [COC] or both) on the absorption and translocation of the <sup>14</sup>C-clethodim was determined at 1, 4, 12, 24, 48, and 72 h after treatment (HAT) in wheat under greenhouse conditions.

The absorption of the <sup>14</sup>C-clethodim with the 0.12 kg L<sup>-1</sup> formulation was higher than that with the 0.24 kg L<sup>-1</sup> formulation, especially at 24 HAT and beyond, regardless of the presence or absence of an adjuvant. The addition of an adjuvant increased the absorption of the <sup>14</sup>C-clethodim with the 0.12 kg L<sup>-1</sup> formulation at all harvest times, except at 72 HAT. However, there were no differences in the <sup>14</sup>C-clethodim absorption among the adjuvants added to the 0.12 kg L<sup>-1</sup> formulation, except at 48 and 72 HAT. Most of the <sup>14</sup>C-clethodim remained in the treated leaf independent of the formulation or adjuvant.

The formulation did not have an impact on the distribution of the absorbed <sup>14</sup>C-clethodim; however, the presence of an adjuvant increased the movement of the <sup>14</sup>C-clethodim out of the treated leaf. Most of the absorbed <sup>14</sup>C-clethodim remained in the treated leaf and a negligible amount translocated to the root. These results demonstrated the improved absorption of clethodim with a formulation containing half of the active ingredient (0.12 kg L<sup>-1</sup>) and the inclusion of both AMS and COC.

(cited from *Weed Biology and Management* Vol. 7, No.4: 226, with permission of Dr. Vijay K. Nandula)

## News from Vietnam

Dr. Duong Van Chin, from CLRRI, Vietnam ([duongvanchin@hcm.vnn.vn](mailto:duongvanchin@hcm.vnn.vn)) sent the following information.

### Report from Vietnam

#### Initial Stages of Allelopathy Research in Vietnam

At the beginning of the 21<sup>st</sup> century, one young scientist of the Cuulong Delta Rice Research Institute (CLRRI) carried out her research work on allelopathy. The main findings of her M.Sc. thesis were: (i) The water extract of the cucumber plants (*Cucumis sativus*) inhibited the germination, growth of the shoots and roots, and fresh weight of barnyardgrass under petri dish conditions.

A significant interaction between the concentration and soaking period was found. Higher extract concentrations gave greater inhibition for each soaking period. The maximum inhibiting effect was found in the extract at the concentration of 5.33 g/l with the 9 day soaking. Nine phenolic acids were found in the cucumber extract and gallic acid was the most prominent.

They are: gallic acid ( 10.10 mg/g), coumaric acid ( 4.90), protocatechuic acid ( 1.40), p-hydroxybenzoic acid ( 4.20), caffeic acid ( 2.01), syringic acid ( 0.80), sinapic acid ( 8.10), trans-coumaric acid ( 2.70), trans- cinnamic acid ( 4.40).

At the same time the Japanese government supported Thai Nguyen University located in mountainous region in the North West of Vietnam. Some lecturers there attended the Ph.D. program in Japan. They carried out their research after coming back home. Organic matter from 30 plant species were tested for allelopathic effects on indicator plants such as lettuce, radish, vegetables and some common rice weeds namely *Echinochloa crus-galli* and *Monochoria vaginalis*.

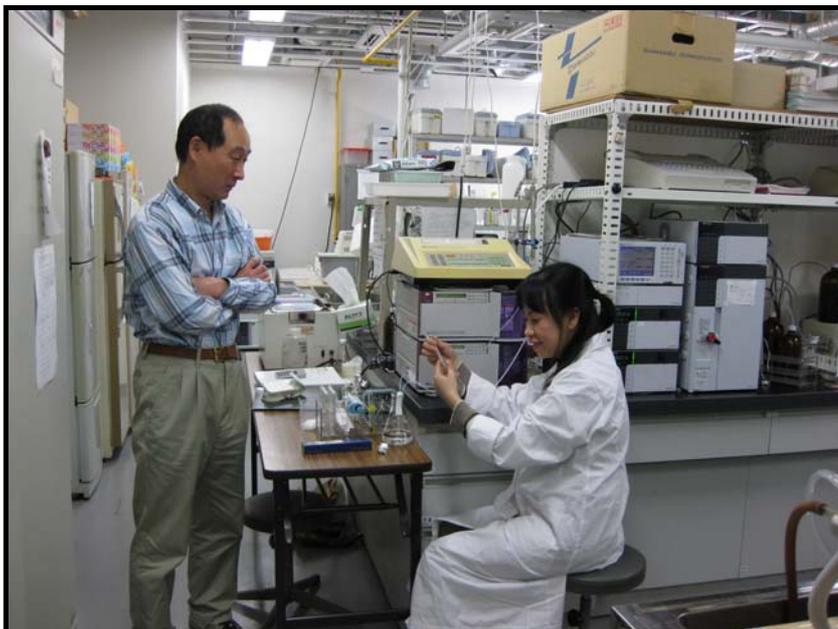
Results have shown that there are 7 species with stimulative effect, 5 species with inhibitory effects from 0.9 to 20%, seven species from 20% to 50%, and five species from 50 to 80%. Six special species having very high allelopathic inhibitory effect (80-100%) are: *Nerium oleander*, *Passiflora incarnate*, *Sophora japonica*, *Helianthus tuberosus*, *Azadirachta indica* and *Leucaena glauca*.

The most significant step for the development of allelopathy research in Vietnam took place in 2005. The CLRRI and the Weed Science Society of Vietnam jointly organized the 20<sup>th</sup> Asian-Pacific Weed Science Society Conference in Ho Chi Minh City from 7-11 November 2005.

At that time, Prof. Dr. Hisashi Kato-Noguchi from Kagawa University, Japan attended the conference. Before that, he contacted with scientists at CLRRI to offer his support to strengthen the manpower in weed research in Vietnam.

On this occasion, he interviewed one candidate for study Ph.D. degree in Japan. Ms. Ho Le Thi, a young researcher of CLRRI, who has a MSc. degree from Can Tho University.

She has continued to study allelopathy in Vietnamese cucumber under the supervision of Prof. Dr. Hisashi Kato-Noguchi.



**Photo shows Prof.Dr. Hisashi Kato- Noguchi and Ms Ho Le Thi in his laboratory**

Some of her research findings are: Aqueous methanol extracts of the cucumber plants inhibited the growth of roots and shoots of cress (*Lepidium sativum*), lettuce (*Lactuca sativa*), alfalfa (*Medicago sativa*), ryegrass (*Lolium multiflorum*), timothy (*Phleum pratense*), crabgrass (*Digitaria sanguinalis*), *Echinochloa crus-galli*, and *Echinochloa colonum* and increasing the extract concentration increased the inhibition.

Several allelochemicals including novel allelochemicals were isolated and identified. The inhibitory activities of them were also determined by several test plant species including weed species and discussed their contribution to the cucumber allelopathy. She concluded that Vietnamese cucumber plants may work as an agent for biological weed control in the variety of agricultural settings.

The main activity of CLRRI is the research and development of new varieties for the region. Many varieties from CLRRI have been released for rice production. Recently, the screening of allelopathic effects of 19 Vietnamese indica rice varieties have been conducted. Results revealed that AS 996 variety stimulated the root length (32.8%) of lettuce, while most of the remaining varieties were inhibitory. The 8 rice varieties (OM 5930, OM 4900, OM 5900, OM 3536, OM 4498, OM 4059, OM 2395, OM 4887) proved highly allelopathic and caused reduction (51.6; 81.5 and 81.5%) in root length of lettuce, kale and weedy rice, while reduction in hypocotyl lengths was 50.7; 40.1 and 79.4 % respectively.

Prof. Dr. Hisasho Kato- Noguchi visited CLRRI from 23 to 30 November 2008 and he will come again for the second time during 23 to 27 June 2009 to discuss the way for further collaboration between two sides. We hope that the long term collaboration between Vietnam and Japan in general and the Cuulong Delta Rice Research Institute and Kagawa University in particular will be strengthened in the field of weed science and allelopathic research in the future.

## Research Report from Iran

The following is a research report sent by a Ph.D. student - Ahmad Hussein from Iran. It is published with some editing.

### **Wild barley (*Hordeum spontaneum* Koch) infestation in wheat fields of Iran**

**Seid Ahmad Hussein\***, Mohammad Hasan Rashed Mohassel, Ardeshir Kohansal

\*PhD student of weed science, Ferdowsi University of Mashhad, Iran.

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#### Introduction

Wild barley (*Hordeum spontaneum* Koch.) is the progenitor of cultivated barley (*Hordeum vulgare* L.). Wild barley is a common species in the Middle East and the eastern Mediterranean, as well as in southern Central Asia and Tibet. It is an almost exclusively autogamous annual grass whose spikes have a brittle rachis and contain two rows of spikelets (Figures 1, 2, 3). Seed dispersal is usually limited to within several meters of the mother plant, although seeds can be carried in the fur of animals over longer distances.

In Iran, several grass weeds (wild oat, canary grass, ryegrass, etc) are troublesome in most regions. In recent years, it has been reported that wild barley is going to become one of the most problematic grass weeds of wheat fields in some regions, especially in Khuzestan and Fars provinces, which their wheat fields are heavily infested (Figures 4, 5).

Generally, some aryloxyphenoxypropionates and sulfonyleurea herbicides (such as Clodinafop propargyl, Diclofop methyl, Fenoxaprop p ethyl, Sulfosulfuron, Pinoxaden, and Metsulfuron methyl plus sulfosulfuron, etc) are registered to control grass and some broadleaf weeds in winter wheat. However, due to the close morphological and physiological similarities of wild barley and wheat, there is no selective herbicide to control wild barley effectively in wheat.

Some experiments have been done to study wild barley control in wheat in different regions of Iran. Clodinafop propargyl is an effective postemergence herbicide for grass weed control in wheat, but wild barley is highly tolerant to it like wheat. Also some other herbicides (Diclofop methyl, Fenoxaprop p ethyl, Pinoxaden) can not control wild barley in recommended dose. Generally, it has been reported that only two sulfonyleurea herbicides (Sulfosulfuron, and Metsulfuron methyl plus sulfosulfuron) can control wild barley to some extent in wheat. However, these herbicides are not always effective for wild barley control, and their effects are greatly dependent to some important factors, such as age of wild barley at spraying time, herbicide dose, and environmental conditions specially temperature.



Ahmad Hussein

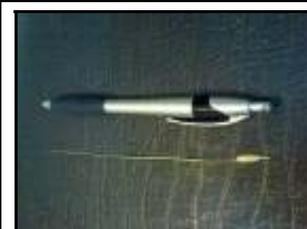


Figure 1. Long awned wild barley



Figure 2. Spikes of wild barley



Figure 3. Seeds of wild barley (left) and winter wheat (right)

Also, there are some concerns with sulfonylurea due to their residues in soil and potential injury to succeeding crops. Although effective control of wild barley (up to 70%) is achievable by higher doses of these two herbicides, but economical and environmental issues should be considered. In an experiment, It has been reported that maximum biomass reduction of wild barley (67.32%) was achieved by applying Metsulfuron methyl plus sulfosulfuron at 32 g a.i/ha.

### Experiments

In order to study the efficacy of different herbicides on wild barley, greenhouse and laboratory experiments were performed to evaluate the tolerance of wild barley to herbicides (Husseini, 2008 until now; as part of PhD thesis in Ferdowsi University of Mashhad, Iran.) Herbicide dose response experiments were performed on wild barley and winter wheat in greenhouse and laboratory (seed bioassay). The List of herbicides tested is shown in Table 1



Figure 4. Wheat field heavily infested with wild barley in Shiraz, Iran (2008)



Figure 5. Wheat field infested with wild barley in Shiraz, Iran (2008)

**Table 1. List of Herbicides in dose response experiments conducted on wild barley and winter wheat in greenhouse studies at Ferdowsi University of Mashhad, Iran in 2008**

Herbicide	Treatment Doses	Comments
Sulfosulfuron* (Apirus)	0, 10, 20, 30, 40, 80, 120 g/ha	Repeated two times. One time combined with malation as synergist.
Clodinafop propargyl (Topic)	0, 0.2, 0.4, 0.8, 1.25, 3, 5 L/ha	Pot and seed assays (fig 9) Also tested by p450 inhibitor in petri-dish.
Pinoxaden (Axial)	0, 0.15, 0.3, 0.45, 1, 2, 5 L/ha	
Metsulfuron methyl + sulfosulfuron	0, 10, 30, 50, 75, 100, 200 g/ha	
Metribuzine (Sencore)	0, 0.25, 0.5, 0.75, 1, 2.5	An effective weed killer in potato. Highly toxic to wheat but some wheat varieties can tolerate it (evaluated in a separate experiment).
Haloxypol R Methyl Ester (Super Gallant)	0, 0.2, 0.4, 0.8, 1.6, 3.2 L/ha	An effective grass killer in canola.
Isoproturon+ Diflufenican (Panther)	0, 10, 20, 40, 80, 160 ppm a.i /pot	Pre-emergence added to the soil in ppm.

\*All post-emergence herbicides were sprayed (at 3 leaf stage of wild barley and wheat) using a laboratory sprayer (MATABI® Elegance plus), equipped with a flat-fan nozzle (8001), calibrated to deliver 250 L ha<sup>-1</sup> of spray solution at 200 kPa.

Results in brief are shown in Table 2 (data not shown). Some results are shown in Figures 6, 7 and 8. Generally, wild barley is highly tolerant to some herbicides (e.g Clodinafop propargyl) like wheat, and can tolerate recommended doses of some other herbicides (e.g Pinoxaden, and Sulfosulfuron).



Figure 6. High tolerance of wild barley to Topic, 21 DAS

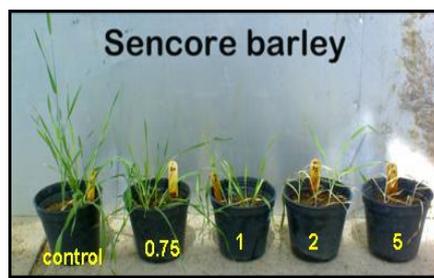


Figure 7. High sensitivity of wild barley to Sencore, 21 DAS



Figure 8. Effect of Super Gallant on wild barley, 21 DAS

Sulfosulfuron (at higher doses, up to 50 g/ha) and metsulfuron methyl plus sulfosulfuron (40 to 60 g/ha) resulted in an acceptable level of control (up to 60%) but could not control wild barley completely.

Also, it should be reminded that herbicide efficacy in greenhouse is higher than that in field. Based on the laboratory experiments, wild barley can metabolize some herbicides, such as Clodinafop propargyl probably by the action of cytochrome P450 monooxygenase enzymes. This is partly proved by the inhibitory effect of P450 inhibitors in Petri-dish assays (Figure 9).

Further studies are being conducted to find mechanisms of wild barley tolerance to herbicides and also to find an effective herbicide for its control in winter wheat.



**Figure 9. Evaluating synergistic effect of P450 inhibitor on response of wild barley to Topic in lab studies**

**Table 2. List of Herbicides in dose response experiments conducted on wild barley and winter wheat in greenhouse studies at Ferdowsi University of Mashhad, Iran in 2008**

Herbicide	Plant response		Description
	Wild barley	Winter wheat	
Sulfosulfuron	Tolerates recommended dose (25 g/ha), but suppressed by higher doses (50 to 80 g/ha)	Highly tolerant and can withstand higher doses up to 180 g/ha	Sulfosulfuron residue in soil; susceptibility of other crops should be addressed.
Clodinafop propargyl	Highly tolerant and can withstand higher doses up to 16 L/ha like wheat (Figure 6)	Highly tolerant and can withstand higher doses.	Not recommended for wild barley control in wheat.
Pinoxaden	Tolerates recommended doses and also higher doses.	Highly tolerant.	Registered for grass weed control in wheat and barley crops; has little activity on wild barley.
Metsulfuron methyl + sulfosulfuron	Susceptible to herbicide especially higher doses (in early growth stage) but not killed.	Tolerant to higher doses.	Early application (before 3leaf stage of weed) can suppress wild barley effectively. A promising herbicide for wild barley control in winter wheat.
Metribuzine	Susceptible and killed at 1 kg/ha (Figure 7)	Susceptible and killed at 1 kg/ha.	Response of wheat varieties is different and some are more tolerant than wild barley. This idea is under investigation.
Super Gallant	Susceptible and killed at recommended dose (0.8 L/ha) for canola (Figure 8)	Susceptible and killed at recommended dose for canola.	An effective herbicide for wild barley control in canola. Crop rotation (wheat-canola) and using this herbicide could be an effective strategy.
PANTHER	Not controlled in recommended doses for wheat, but susceptible to higher doses.	Susceptible to higher doses, especially in soils with low content of clay and organic matter.	Probably not effective for wild barley control in winter wheat, but response of different wheat varieties should be investigated.

The following is a Ph.D. Thesis Abstract sent by Dr. Imtiaz Khan from Pakistan. If more information is needed on the studies, Members and interested parties may contact Dr. Imtiaz Khan directly via his e-mail address: [imtiazagri@yahoo.com](mailto:imtiazagri@yahoo.com).

**STUDIES ON COMPETITIVE INTERACTION AND MANAGEMENT OF WILD OATS (*Avena fatua* L.) IN SPRING WHEAT (*Triticum aestivum* L.)**

Imtiaz Khan and Gul Hassan

Department of Weed Science, Faculty of Crop Protection Science

NWFP Agricultural University Peshawar-Pakistan

**ABSTRACT**

Wild oats (*Avena fatua* L.) is one of the most widespread, noxious and harmful weeds in wheat. In order to quantify the impact of wild oats on wheat, two separate experiments were conducted at Agricultural Research Farm, NWFP Agricultural University Peshawar, Pakistan for two crop seasons i.e. 2004-05 and 2005-06.

The first experiment was concerned to find effect of wild oats populations and nitrogen levels on some agronomic and quality traits of wheat, while in the second experiment wild oats biotypes were subjected to different oats killers to find out the effect of herbicides on biotypes and the impact on wheat.

The first experiment was laid out in Randomized Complete Block (RCB) design with split plot arrangement, having four replications. Three nitrogen levels (75, 100 and 125 kg ha<sup>-1</sup>) were kept in main plots while five wild oats densities (0, 10, 20, 30, and 40 plants m<sup>-2</sup>) were assigned to the sub plots. The sub-plot size measured 5x 1 m<sup>2</sup>. The effect of nitrogen was not significant on different parameters of wheat and wild oats, while oats density and interaction of density with nitrogen levels were significant for all the parameters studied.

The two year data revealed that less than one wild oats plant m<sup>-2</sup> inflicted 1% reduction in wheat yield, while 30% reduction in yield was computed with the infestation of 16, 18 and 17 plants m<sup>-2</sup> under 75, 100 and 125 N kg ha<sup>-1</sup> fertilizer regimes, respectively.

It was further discovered that there existed a wild oats density related reduction in grain protein content. About one and a half wild oats plant m<sup>-2</sup> reduced protein content by 1%, which is alarming in vegetable based diets like Pakistan. Judicious control measures for wild oats are recommended to be adopted for harvesting better quantity and quality of wheat.

The second experiment was laid out in Randomized Complete Block design with split-plot arrangement having three replications. The experiment comprised of four wild oats biotypes assigned to the main plots, while 3 herbicides Sencor 70WP, Isoproturon 500 EW and Affinity 50WDG (metribuzin, isoproturon and carfentrazone ethyl ester + isoproturon) were kept in sub-plots. The Ghaznavi-98 wheat variety was seeded at the rate of 120 kg ha<sup>-1</sup> with sub-plot size of 5x 1m<sup>2</sup>.

To avoid the risk of germination failure, three to five seeds of wild oats were seeded instead of a single seed and then thinning to one seedling hill<sup>-1</sup> and an ultimate density of 20 plant m<sup>-2</sup>. Data were recorded on tillers plant<sup>-1</sup>, wheat spikes m<sup>-2</sup>, wheat plant height at maturity (cm), wheat spike length (cm), wheat spikelets spike<sup>-1</sup>, number of grains spike<sup>-1</sup>, 1000 grain weight (g), biological yield (t ha<sup>-1</sup>), grain yield (t ha<sup>-1</sup>) and grain protein content (%).

The analysis of data revealed that the main effects for biotypes were non-significant statistically for all the parameters studied, but the effect of herbicides and the interaction of herbicides with biotypes were significant statistically for all the traits except plant height at maturity and protein content (%) in wheat grain during 2004-05.

For controlling wild oats biotypes, the herbicide Affinity proved to be the best treatment giving maximum grain yields (1.42 and 2.60 t ha<sup>-1</sup>) during two years study as against minimum grain yields (0.60 and 1.043 t ha<sup>-1</sup>) recorded in weedy check plots during 2004-05 and 2005-06, respectively.

From our findings, it is concluded that herbicides may be applied cautiously to different biotypes of wild oats depending upon their susceptibility to various herbicides.

News about Forthcoming Conferences	
<b>2009</b>	
12-15 July 2009	<p><b>49<sup>th</sup> Annual Meeting of the Aquatic Plant Management Society</b></p> <p>To be held at Milwaukee, Wisconsin, USA.</p> <p>For more information, contact the organising committee (Greg MacDonald, APMS Program Chair, University of Florida - Agronomy Dept., P.O. Box 110500, Gainesville, FL 32611; Email: <a href="mailto:pineacre@ufl.edu">pineacre@ufl.edu</a>; Phone: 352-392-1811, ext. 228; or visit the website: <a href="http://www.apms.org/2009/2009.htm">http://www.apms.org/2009/2009.htm</a></p>
20-24 July 2009	<p><b>3<sup>rd</sup> National Conference on Ecosystem Restoration (NCER)</b></p> <p>To be held in Los Angeles, California, USA. For more information: <a href="http://conference.ifas.ufl.edu/NCER2009/">http://conference.ifas.ufl.edu/NCER2009/</a></p>
26-29 July 2009	<p><b>10<sup>th</sup> Queensland Weeds Symposium</b></p> <p>To be held at Rydges Capricorn, Yeppoon. For more information, contact the chair of the organising committee, Trudy Baker, or look for future updates on the WSQ website: <a href="http://www.wsq.org.au">www.wsq.org.au</a> or <a href="http://www.wsq.org.au/10thWeedSymposium/home.html">http://www.wsq.org.au/10thWeedSymposium/home.html</a></p>
23-27 August 2009	<p><b>EMAPI - 10<sup>th</sup> International Conference on the Ecology and Management of Alien Plant Invasions (EMAPI)</b></p> <p>To be held in Stellenbosch, South Africa; <a href="http://www.emapi2009.co.za/">http://www.emapi2009.co.za/</a></p>
23-27 August 2009	<p>19<sup>th</sup> Conference of the Society for Ecological Restoration International (SERI)</p> <p>To be held in Perth, Western Australia.</p> <p>Contact: <a href="http://www.seri2009.com.au/index.html">http://www.seri2009.com.au/index.html</a></p>
24-28 August 2009	<p><b>12<sup>th</sup> International Symposium on Aquatic Weeds, European Weed Research Society (EWRS)</b></p> <p>To be held in Jyväskylä, Finland; Contact: <a href="http://www.ewrs.org/doc/EWRS_Aquatic_weeds_12th_symposium.pdf">http://www.ewrs.org/doc/EWRS_Aquatic_weeds_12th_symposium.pdf</a></p>
8-10 September 2009	<p><b>8<sup>th</sup> International Conference on Weed Biology</b></p> <p>To be held in Dijon, France. Contact: J. Gasquez, UMR Biol. et Gestion des Adventices, BP 86510, Cedex 21065 Dijon, FRANCE. <a href="mailto:Gasquez@dijon.inra.fr">Gasquez@dijon.inra.fr</a> or <a href="http://www2.dijon.inra.fr/bga/conference2009">www2.dijon.inra.fr/bga/conference2009</a></p>
2-6 November 2009	<p><b>ICBI 2008, International Congress on Biological Invasions</b></p> <p>To be held in Fujian, China. Contact: ICBI2009 SECRETARIAT, C/O: <i>College of Plant Protection, Fujian Agriculture and Forestry University</i>, Jinshan, Fuzhou, Fujian 350002, China; Tel: +86 591 8788 4662, Fax: +86 591 8788 4262, E-mail: <a href="mailto:icbi2009@faas.cn">icbi2009@faas.cn</a> or <a href="http://www.icbi2009.org">http://www.icbi2009.org</a></p>
10-13 November 2009	<p><b>Multi-Organization Congress, Weed Science and Biodiversity in a Sustainable Agriculture</b></p> <p>To be held in Lisbon, Portugal. Contact: E. Sousa, Secc. de Fito e Herbol., Ins. Superior de Agron. Tapada da Ajuda, 1349-017, Lisbon, PORTUGAL. <a href="mailto:Cherbologia2009@isa.utl.pt">Cherbologia2009@isa.utl.pt</a>, or <a href="http://tinyurl.com/d8jhzs">tinyurl.com/d8jhzs</a>.</p>
<b>2010</b>	
4-8 July 2010	<p><b>12P<sup>th</sup> IUPAC International Congress of Pesticide Chemistry</b></p> <p>To be held in Melbourne, Australia. Contact: E. Gibson, RACI, 1/21 Vale St., North Melbourne, VIC 3051, Australia. Ph: +61-3-9328-2033. <a href="mailto:Elizabeth@raci.org.au">Elizabeth@raci.org.au</a>, or <a href="http://www.iupac.org/web/act/Melbourne_2010-07-04">www.iupac.org/web/act/Melbourne_2010-07-04</a>.</p>

12-15 July 2010	<p><b>15<sup>th</sup> European Weed Research Society (EWRS) Symposium.</b></p> <p>To be held in Kaposvar, Hungary. Contact: Secretariat, <a href="mailto:ewrs@asszistencia.hu">ewrs@asszistencia.hu</a>. or <a href="http://www.asszisztencia.hu/ewrs">www.asszisztencia.hu/ewrs</a>.</p>
October 2010	<p><b>8<sup>th</sup> International Workshop on Biological Control and Management of <i>Chromolaena odorata</i> and other Eupatoriea and Workshop on Management of <i>Parthenium hysterophorus</i>.</b></p> <p>To be held in Nairobi, Kenya. Contact: C. Zachariades, ARC-PPRI, Private Bag X6006, Hilton, 3245, South Africa. <a href="mailto:ZachariadesC@arc.agric.za">ZachariadesC@arc.agric.za</a>.</p>
26-30 September 2010	<p><b>17<sup>th</sup> Australasian Weeds Conference</b></p> <p>Sponsored jointly by the New Zealand Plant Protection Society Inc and the Council of Australian Weed Societies Inc, the 17<sup>th</sup> Australasian Weeds Conference is to be held in Christchurch, NZ. Contact details for further information are as follows:</p> <p>The Conference Secretariat, Professional Development Group, PO BOX 84, Lincoln University, Canterbury, 7647, NZ, or <a href="http://www.17awc.org">www.17awc.org</a>.</p>
<b>Other 'Weedy' News</b>	
<p><b>Study on 'agents of spread' of Alligator Weed (<i>Alternanthera philoxeroides</i>) in Australia</b></p> <p>A recent study, conducted in New South Wales (NSW), Australia, identified the major operational vectors causing spread of Alligator Weed (<i>Alternanthera philoxeroides</i>) in the State and possibly, causing spread outside the regions as well. The study was focused on the two main infestation regions, the Sydney basin and the Hunter region (Newcastle, and surrounds) in the State of NSW, in Eastern Australia.</p> <p>The major vectors of spread within these two 'core' infestation regions were identified as: flood, recreational activities (boating and water-related sports), earthmoving equipment and aquatic weed harvesting activities. Other important vectors were irrigation, landscaping activities (mowing and movement of contaminated grass clippings and mulch, etc), floodplain agriculture, and waste and soil dumping in urban areas.</p> <p>In addition, locations of infestations in catchments and waterways (whether upstream, middle or downstream), infestation sizes and their nature - whether aquatic or terrestrial, were also rated as important factors, contributing to spread.</p> <p>Using an agreed Risk Assessment Framework, a risk assessment of the above vectors, operating at major infestation locations in the two regions, was carried out. This allowed the ranking of the locations as 'Low', 'Medium', 'High' or 'Very High' risk sites, in terms of the collective risks of spread posed by those vectors. This prioritization is a first strategic step towards controlling the vectors, to prevent a nation-wide Alligator Weed outbreak.</p> <p>The study compiled available Alligator Weed infestation data from the Sydney and Hunter regions into a single spatial ArcView GIS database, setting a new baseline. The assigned risks of spread for the infested sites are displayed in maps covering the two regions. The digitised ArcView datasets can be updated with future mapping, and are amenable for further analyses of risk factors. They form the basis for strategic targeting of heavily infested sites and for future monitoring of changes in Alligator Weed abundance at infested sites in the regions.</p> <p>Consultations with stakeholders identified inadequate resourcing and coordination of management effort as major constraints to successful management. Other constraints include the inadequate priority attached to the species, inconsistency in on-ground contractor performance and ineffective implementation of local management plans. The study also highlighted community engagement and stakeholder cooperation as critical elements to improve Alligator Weed management in NSW, and more broadly in Australia.</p> <p>For more information on the study, please contact:</p> <p>Dr. Nimal Chandrasena, Principal Ecologist, Ecowise Environmental 24, Lemko Place, Penrith, NSW 2750, Australia</p> <p>Email: <a href="mailto:nimal.chandrasena@gmail.com">nimal.chandrasena@gmail.com</a> or <a href="mailto:nchandrasena@ecowise.com.au">nchandrasena@ecowise.com.au</a>.</p>	

### **Research on the nutritional values of Alligator Weed (*Alternanthera philoxeroides*)**

In NSW Australia, Port Stephens Council, NSW Department Primary Industries and CSIRO are conducting assessments of the nutritional values of Alligator Weed (*Alternanthera philoxeroides*) for comparison with common pasture species that cohabit the core infested areas in Australia.

In the Port Stephens area, there are an estimated 3500 Hectares of land affected by Alligator Weed, with the dominant land use cattle grazing. Anecdotal reports suggest that Alligator Weed, one of the worst weeds in Australia, is a very attractive food plant for domestic cattle.



**Cattle grazing on Alligator Weed in a paddock in Newcastle**

Many farmers report that cattle do very well grazing pastures dominated by Alligator Weed, and it seems cattle prefer Alligator Weed over other available species. There has been a single documented report of adverse effects (Bourke and Rayward, 2003), which was inconclusive, but indicated implications for skin lesions and liver damage.

We are seeking further information or reports on adverse effects for cattle (and other livestock) that graze Alligator Weed and also any results on studies into the nutritional values attributed to the weed.

#### **Contact:**

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#### **Reference:**

Bourke, C. A and Rayward, D. (2003) *Photosensitisation in dairy cattle grazing alligator weed (Alternanthera philoxeroides) infested pastures*. Aust Vet J., 81: 361-362

### **Editor's Column**

I intended to publish this Newsletter in April 2009. However, this was not possible, because of lack of information of any kind from the majority of our Member Countries, for wider dissemination. Being a Weed Science Newsletter Editor is now turning out to be a hard chore!

I sent out a request for information again on 15 April, to which several Members responded. I am thankful to those contributors. As Members would probably agree, the Newsletter now has a significant compilation of useful and interesting information.

As Members would have realized our 22<sup>nd</sup> APWSS Conference, to be held in Pakistan, has been postponed until March 2010, due to the unsettled security conditions in that part of the world. We hope that the postponement will allow time for conditions to improve and the Local Organizing Committee could hold a good Conference. I encourage all Members and non-members to consider attending.

In the meantime, Steve Adkins has commenced preparations for the 23<sup>rd</sup> Conference, to be held in Cairns, Australia, in 2011!. A very busy time indeed for APWSS.

I am pleased that Steve has provided an update of the financial status of the Society, which is quite healthy. The current Treasurer – Michael Renton – has now taken the reins.

The next Newsletter will be in December 2009. As I have highlighted, there are several weed conferences between now and then. I am encouraging those who attend any of the Conferences to send in Summary highlights of those Conferences or formal Conference Reports, for general dissemination.

As usual, I am requesting everybody to think about sharing information regarding weed science and related projects that you are involved with. There are many stories to tell, as can be seen from the material in the Newsletter. Also, please provide any feedback on the current Issue.

Again, I encourage Country Representatives to provide interesting news from their respective Weed Societies and activities. I also welcome ideas on what might be of interest to a broader membership and suggestions to improve the quality of the Newsletter.

Also, kindly distribute the Newsletter as widely as possible, so that we promote collaboration among Weed Scientists particularly in the Asia-Pacific Region, and also amongst our Industry Partners.

Thank you

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