



ISWS News Letter

A publication of Indian of Society Weed Science

January – June

2011

July - December

EDITORIAL

It is in continuation of the last issue of this News Letter, wherein a message was conveyed for weed scientists to come out with their candid inputs to shape the future of ISWS. The strengthened platform of ISWS can only solve the problem of a messy situation that is going to happen due to exotic weeds, climate change, herbicide residues, and some more. Exotic weeds have already grabbed the steering of the attack on crop. Changing climate is facilitating this aggression. In consequence, biodiversity, both of flora and fauna are going to be disturbed severely. Consumption of herbicides will be increased, aftermath of which will be the enhanced ability of weeds to develop resistance against herbicides. Question of herbicide contamination in food and ground water will come in.

Interestingly and finally, members of ISWS have reached to the consensus to have a single platform for Weed Science and Weed Scientists in the county. It is indeed a great decision to re-shape our ISWS. Congratulation the makers!

PROCEEDING OF EC, ISWS

Proceeding of Executive Council (EC) of Indian Society of Weed Science held on 15/11/2011 at Division of Agronomy, IARI, New Delhi

A meeting of EC was held on 15/11/2011 at Division of Agronomy, IARI, New Delhi to discuss various issues related to society. The following members were present:

Dr. T.V. Muniyappa, Bangalore	-	President
Dr. Sushilkumar, Jabalpur	-	Secretary
Dr. V.P. Singh, Jabalpur	-	Treasurer
Dr. M.L. Kewat, Jabalpur	-	Joint Secretary
Dr. Samunder Singh, Hisar	-	Chief Editor



Dr. U.S. Walia, and Dr. C.T. Abraham, Vice Presidents and Dr. Kalyana Moorthy, Joint Secretary could not attend the meeting due to their preoccupation.

The EC requested Dr. N.T. Yaduraju to participate as a special invitee in the meeting who happened to be in New Delhi.

At the outset, Dr. Muniyappa, President welcomed Dr. Yaduraju and all EC members who spared their time to participate in the meeting for the cause of the society. Dr. Sushilkumar, Secretary put up the following agenda items before the committee for discussion and further action.

1. To distribute 2010 (3&4) issue of IJWS published from Hisar to all the members of ISWS

It was realized that new members enrolled after 2007 have not received the IJWS issue of 2010 (3&4) besides many old members. Dr. Sushilkumar informed that about 350 such copies will be required for distribution besides to some libraries which have subscribed the journal. It was resolved to reprint about 300 more copies in addition to about 75 copies to be given by Dr. Samunder Singh. Dr. Samunder Singh was requested to provide the CD of composed material to Dr. Sushilkumar to take the work of printing and distribution at the earliest.

2. To publish and distribute left issues of Indian Journal of Weed Science at the earliest and to decide the pattern of Journal from 2011 onward.

The EC members showed their concern about the delay in publication of Volume 43 of 2011. To expedite the printing and distribution, it was resolved to publish already reviewed articles of both the factions. Dr. Samunder Singh was entrusted to look after the publication and distribution of already reviewed and accepted articles from Hisar in Volume 43 (1&2) and Dr. Sushilkumar was given the responsibility of printing all such reviewed articles from Jabalpur after doing synchronization in pattern and style of journal. It was decided to opt front cover style of Hisar and paper style of Jabalpur. It was also decided to put the date of receiving,

reviewing and accepting of the article which may help to improve the NAAS rating.

It was resolved that, Dr. Partha Pratim Choudhury, Sr. Scientist, DWSR, Jabalpur will look after to bring out ISWS quarterly Newsletter in electronic form.

3. To hold Biennial conference of ISWS along with Biennial Workshop of AICRPWC and selection of venue etc.

It was resolved to have Biennial conference of ISWS along with Biennial Workshop of AICRPWS at Thrissur (Kerala) during 2nd or 3rd week of March to ensure maximum participation of weed scientists from all over the country. However, it was left to decide the final dates after consultation with Director, DWSR, Jabalpur and Dr. C.T. Abraham, KAU, Thrissur.

4. To make a joint list of members of ISWS and put on the Website of ISWS.

Dr. Samunder Singh was requested to provide the list of new life members enrolled after 2007 and list of annual members enrolled in 2011 so that a joint list could be finalized and put on the web site state wise. It was also decided to update the addresses.

5. To de-frizzed the account of ISWS of SBI Adhartal, Jabalpur and transfer all the funds of Hisar and Jabalpur factions in one account of ISWS.

It was unanimously resolved to de-frizzed the frizzed account of ISWS, Adhartal Jabalpur. Dr. Samunder Singh agreed to provide all the details of FD etc. to enable Dr. V.P. Singh and Dr. Sushilkumar to take further action with consultation of Manager, SBI, Adhartal, Jabalpur. Dr. N.T. Yaduraju and Dr. Samunder Singh assured all their cooperation to defreeze the account. Dr. T.V. Muniyappa, President of ISWS desired to see all the audited account of both the factions by December end. He

requested Dr. V.P. Singh to do the needful and also requested Dr. Samunder Singh to convey the message to Dr. Pannu, HAU, Hisar to get the account audited in given time limit. It was also resolved to transfer all other funds of society being maintained in separate account at Hisar and Jabalpur into single account at Jabalpur so that in future only one account of ISWs could be maintained.

6. To make operational only one website of ISWS instead of two and to put all the material of conferences of both the faction except expulsion issues.

It was resolved to maintain only one website that is isws.in. Dr. Samunder Singh was requested to download all the material from the website of isws.org.in and to merge with the matter of isws.in. It was decided that the all the material of isws.org.in like content and abstract of IJWS published from Jabalpur will be kept as supplementary publication in the respective years. The details of conferences held at Patna, Coimbatore and Raipur will be kept along with the photographs and names of recipients of fellowship and awards. All the matter related to expulsion issue will be erased permanently. Dr. Samunder Singh was entrusted the initial

responsibility to merge the matter of both the websites in one website with the consultation of Dr. Sushilkumar. After doing all updating of website by Dr. Samunder Singh, the same may be maintained at Jabalpur by ARIS incharge. Mr. Sandeep Dhagat, who is also the life member of the society and well versed with the maintaining of website.

7. To start process of election so that new EC may take the charge in forthcoming Biennial conference

It was resolved to put the agenda in forthcoming GB meeting during Biennial conference to decide the issue of election.

8. To resolve the issue of court case pending at Hisar

It was resolved that Dr. Sushilkumar, will also send a hard copy of apology letter to Dr. N.T. Yaduraju, Dr. Samunder Singh and Dr. R.M. Kathiresan as was drafted and signed by the interim EC members during the EC meeting held at Bangalore on 28th July 2011.

At the end, Dr. Sushilkumar, Secretary gave the vote of thanks.

Sushilkumar
Secretary, ISWS

NEWS

AICRP-WC: Annual Group Meeting

The Annual Group Meeting of All India Coordinated Research Project on Weed Control was held on 28th Feb. - 1st March, 2011 at Anand Agricultural University, Anand (Gujarat).

At the outset of the meeting, Dr. S.K. Dixit, Dean, College of Agriculture, AAU, Anand welcomed the all dignitaries on the dias, delegates from different AICRP-Weed Control centres, university staff, industries, press media.

He briefed about the activities of AICRP-WC since its inception. Dr. R.H. Patel, Director, Research Services, AAU, Anand presented the research activities of the university and AICRP-WC at Anand. Dr. Jay G. Varshney, Director, DWSR delivered a key note address. He emphasized over the future challenges such as weed management in rainfed agriculture, growing menace of weedy rice, effect of climate change on crop weed competition, quarantine weeds, management of aquatic weeds, etc. He advised to

involve more and more scientists to work on herbicide residue and persistence, nano-herbicides and weed utilization. Dr. R.P. Dubey, In-Charge Coordinating Scheme presented the research highlights and the recommendations of the work done by various coordinating centres.

After the presentation, two publications, viz., Annual Report of AICRP-WC and Report of TNAU, Coimbatore along with soft copy on tillage system were released by Hon'ble Vice Chancellor, AAU and Dr. Varshney, respectively. Dr. AM Shekh, Hon'ble Vice Chancellor delivered the presidential address where he emphasized over the food security and agricultural growth of the country. He added to give more emphasis on using improved agricultural practices and yield loss due

to weeds which would support the agriculture growth and ultimately the national food security.

He appreciated the work of Ludhiana on climatic change.

Dr. A.R.G. Ranganatha has taken the charge of DWSR



Dr. A.R.G. Ranganatha, Project Coordinator (Sesame), Jawaharlal Nehru Krishi Vishwavidyalaya, Jabalpur has assumed the charge of the post of Director, DWSR on the 22nd June, 2011. Dr. Jay G. Varshney, former Director, DWSR, has been transferred to ICAR Research Complex for NEH Region, Sikkim Centre, Gangtok.

Observing of Parthenium Awareness Week (16-22 August 2011) in India

Parthenium hysterophorus L. (Asteraceae), since its first occurrence in Pune (Maharashtra) in 1955 it has spread alarmingly and invaded millions of hectares of land in the country. In view of the seriousness as well as the magnitude of the threat posed by this weed, Directorate of Weed Science Research, Jabalpur organizes nation-wide "Parthenium Awareness Week" since 2004 during rainy season. This year "Parthenium Awareness Week" was observed during 16-22 August, 2011. by involving all SAUs, all Krishi Vigyan Kendra (KVKs), all institutes of ICAR, all AICRP centres of Weed control, many NGOs, municipalities and schools and colleges to create public awareness on the ill effects of this weed and ways to manage it. To facilitate the event, posters, extension material, a documentary on

parthenium etc. especially developed for this occasion were distributed to the above organizations with the appeal to generate



more material in regional languages and to distribute them among stakeholders. At every center of Directorate of Weed Science Research located in State Agricultural University, programmes like photo exhibition, live demonstrations, releasing of beetles, rallies, lectures and uprooting programmes were done involving various stake holders.

At DWSR, Jabalpur, the week was initiated by holding as uprooting programme in nearby colony involving colony residents and all staff of DWSR.



The uprooted biomass of Parthenium was pickup and brought to farm for making compost. During the week, many activities like holding coner meetings in various places of Jabalpur, lectures and live demonstration of Parthenium management technology in different colleges and schools were done. A special training programme was held at DWSR to train the farmers and representative of NGOs to manage the Parthenium by various approaches including its utilization.



Sushilkumar
Programme coordinator

RESEARCH NOTES

Single nucleotide mutation in the barley acetohydroxy acid synthase (AHAS) gene

A group of scientists under the leadership of Dr. Diter von Wettsteina of School of Molecular Biosciences and Department of Crop and Soil Sciences, Washington State University has developed lines of barley that are resistant to imidazolinone herbicides through induced mutagenesis. A sodium azide-treated M2/M3 population of barley cultivar Bob was screened for resistance against acetohydroxy acid synthase (AHAS)-inhibiting herbicides. The phenotypic screening allowed identification of a mutant line showing resistance against imidazolinones. Molecular analysis identified a single-point mutation leading to a serine 653 to asparagine amino acid substitution in the herbicide binding site of the barley AHAS gene. The transcription pattern of the AHAS gene in the mutant (Ser653Asn) and WT has

been analyzed, and greater than fourfold difference in transcript abundance was observed. Phenotypic characteristics of the mutant line are promising and provide the base for the release of IMI resistant barley cultivar(s).

(Source: PNAS
www.pnas.org/cgi/doi/10.1073/pnas.1105612108)

Jatropha-source of allelochemicals

S. Rejila and N. Vijayakumar of *S.T. Hindu College, Nagercoil, Tamilnadu*, have identified *Jatropha* as a source of allelochemicals. The aqueous leaf extracts of *Jatropha curcas* showed inhibitory effects on seed germination, shoot length and root length in *Capsicum annum* L.(green chilli).The inhibitory effect of the crop plant is directly proportional to the increasing concentration (5%, 10%, 15%, 20%) of aqueous leaf extracts of *Jatropha curcas*.

(Source: Journal of Phytology 2011, 3(5): 01-03)

Broadaxe-a promising sunflower herbicide

FMC is going to launch a new formulation for sunflower growers. It is Broadaxe ®- the new formulation of two active ingredients, sulfentrazone and S-metolachlor. In comparison

to the individuals the combination offers longer residual, better control of grasses. It also provides a broader control spectrum of several key broad leaf weeds.

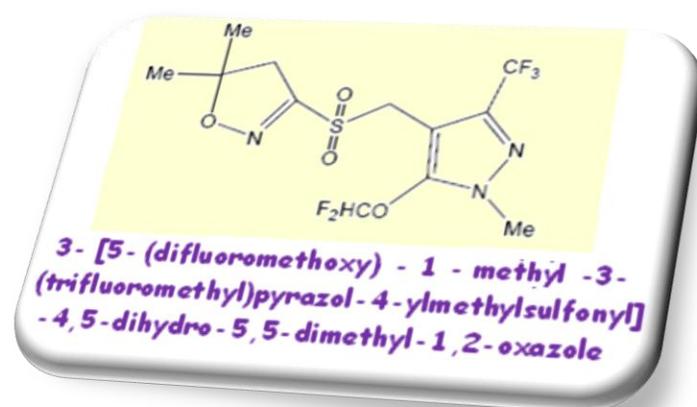
(Source: Sunflower Magazine, NSA)

KNOW YOUR HERBICIDE

Pyroxasulfone

Pyroxasulfone is a pyrazole-based herbicide being developed by Kumiai Chemical for pre-emergence broad spectrum weed control in several crops. FMC acquired the rights to pyroxasulfone from the Japanese company Kumiai. It is an isoxazoline compound. It is considered to be a seedling shoot growth inhibitor and the primary target enzyme is very long chain fatty acid elongase. It inhibits several fatty acid elongation steps for shoot formation and cell proliferation in the plants. Pyroxasulfone also interferes with new plant growth at the apical meristem and the coleoptile.

Weed control with pyroxasulfone is primarily from preemergence application to the weed population.



KNOW YOUR WEED

Hyptis suaveolens Poit. (Bush mint)

Hyptis suaveolens, commonly known as Bush mint and in hindi as Wilayati Tulsi (foyk:rh rqylh), belongs to the family Lamiaceae. It is an exotic weed naturalized in India and is considered as a potential invader. It has spread at an alarming stretch in most parts of the India. Its population expansion is so fast that it may prove to be an established invader in near future.

It is a rigid annual herb of aggressive nature. It propagates either from perennial rootstock or from viable seeds from the soil seed bank or from fresh stock with the onset of monsoon rains. The plant can attain a height of approximately 2.5

meters within a growing season. The stem is quadrate and hairy. Leaves are ovate or obovate, generally 3-5 cm long and 2-4 cm wide with serrulate margins and a long petiole. Lower surface of the leaves bears



hairs. It produces copious blue flowers in small cymes along branch that ends with reduced leaves. Flowering starts in it at an early age of two to three months. A large number of pollinators assist in pollination of the *Hyptis* flowers leading to the enormous seed production. The fruits (nutlets) are about 1.2-1.5 mm long and seeds are protected in spined burr which help in its dispersal. The seeds are characteristically dimorphic and the dimorphism is reflected in the seed size.

A number of vegetative characters are helpful in the heavy proliferation of *Hyptis* such as small seed size, prolific seed production (more than 2000 m⁻²) forming persistent seed bank within short period, seed dimorphism, autogamic and allogamic mode of reproduction, good proliferation from the persistent rootstock, probable allelochemicals and presence of essential oil conferring resistance to against variety of insects or pathogens.

Due to successful reproduction, *Hyptis* covers a large area after the rains and does not the native species to flourish. Not only it restricts the area for other species but it increases livestock pressure on the native species because of its

unpalatable nature due to presence of essential oils.

Almost all parts of this plant are being used in traditional medicine to treat various diseases. The leaves of *H. suaveolens* have been utilized as a stimulant, carminative, sudorific, galactagogue and as a cure for parasitic cutaneous diseases⁶. Crude leaf extract is also used as a relief to colic and stomachache. Leaves and twigs are considered to be antispasmodic and used in antirheumatic and antispurific baths, antiinflammatory, antifertility agents, and also applied as an antiseptic in burns, wounds, and various skin complaints. Reportedly it has mycotoxic activity against fungus *Candida albicans*, antimicrobial activity against both gram positive *Staphylococcus aureus* and *Bacillus cereus* and negative strains of *E. coli*, *Pseudomonas*. Besides all these properties it also has insecticidal properties and said to be mosquito repellent

As damage to the biodiversity of adjoining areas is much greater than its utilization efforts should be done to check its spread so that it may not become a successful invader in near future like other invaders in the India.

-V.S.G.R. Naidu
Sr. Scientist, DWSR

FUTURE EVENTS

THE VITH INTERNATIONAL WEED SCIENCE CONGRESS

The 6th International Weed Science Congress will be held in Hangzhou, China from June 17-22, 2012 jointly organized by The Institute of Plant Protection (CAAS), The China Society of Plant Protection and Weed Science Society of China (CSPP).

The theme of the Congress will be '**Dynamic weeds, diverse solutions**'.

Contact person: Per Kudsk, Chairman of the Scientific Programme Committee.

(Per.Kudsk@agrsci.dk).

BIENNIAL CONFERENCE OF INDIAN SOCIETY OF WEED SCIENCE

The Biennial Conference of Indian Society of Weed Science (ISWS) will be held in Kerala Agricultural University, Thrissur, during 19-20 April 2012. The conference will be jointly organized by Indian Society of Weed Science, Kerala Agricultural University, Thrissur and Directorate of Weed Science Research, Jabalpur

For details about conference kindly contact Dr. Sushilkumar, Organizing Secretary at email: iswsjbp@gmail.com; sknrcws@gmail.com, website - www.isws.org.in and www.isws.in

CALL FOR NOMINATIONS

IWSS Outstanding International Achievement Award 2012

Every four years, the International Weed Science Society (IWSS) bestows awards to weed scientists who exemplify outstanding performance in science and service, during the International Weed Science Congress. The upcoming Congress will be held in Hangzhou, China on June 17 - 22, 2012. Up to four awardees will be selected, for the period 2009 to 2012.

Eligibility

Nominees are eligible for consideration for the IWSS Outstanding International Achievement Award if, over a prolonged period, they demonstrate exemplary accomplishments in the field of weed science, promoting international activities, encouraging membership and strengthening the Regional Weed Science Societies, and with tangible international impact.

Nomination Deadline: February 28, 2012
For further information: secretary@iwss.info

The ISWS Newsletter is an electronic half yearly publication to foster better communication and give information to our members and others in the country interested in weed science. Information for publication in the ISWS Newsletter may be sent to the Editor at the following address:

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