



WEED news



October- December, 2014

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RESEARCH HIGHLIGHTS

Seed preservation at ambient temperature made easy

A liquid preservative of 20% (w/w) CaCl₂ in glycerol was evaluated for its efficacy in seeds of 19 crops and 19 weeds [with mean moisture content (MC) at 10% on fresh weight basis] by storage at varying temperatures

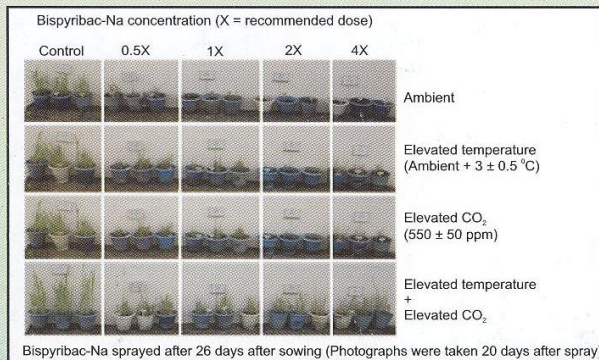


Crop seeds preserved in preservatives developed at DWR

(ambient: 30±15 °C, cold at -10 °C), mean moisture contents and atmospheric (in air or under hermetic storage) conditions. It was found to extend longevity of the seeds by 3-8 folds, evaluated for 24 and 21 years, respectively at ambient temperatures.

Efficacy of herbicides under changing climate

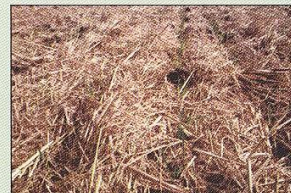
Climate change, directly or indirectly, shall have a significant impact on management of weeds. It is likely that uptake, translocation and metabolic pathways of herbicides will be affected that may alter the efficacy of many herbicides. It is advocated that higher concentrations of starch in leaves of C₃ plants grown under CO₂ enrichment may, 'in turn', interfere with herbicide activity. Except a few, effects of elevated atmospheric CO₂ concentrations on weed/crop/ herbicide interactions are not well known. In a preliminary study conducted at the Directorate, it was observed that efficacy of bispyribac-Na against *Echinochloa colona* was reduced under conditions of elevated temperature, high CO₂ and to a greater extent, a combination of these two environmental factors.



NEWS

Crop production under conservation agriculture

Rice-wheat is the major cropping system in central and eastern Madhya Pradesh. Tillage operations increase production cost but do not benefit by proportional increase in wheat grain yield. Further, there is concern for reduction in soil fertility, scarcity of farm labour and declining water table under conventional agriculture. Conservation agriculture is a viable option to mitigate such problems as it is economically-viable and an ecologically-permissible technology that ameliorates late sowing, minimizes weed infestation, lowers cost of production, and improves fertilizer and water-use efficiency. In an attempt to create awareness amongst farmers to adopt this eco-friendly and cost effective technology, Directorate of Weed Research introduced happy seeder machine among farming community for sowing of wheat and greengram for the first time under OFR programme during 2012-2014. The initial response was very poor but somehow farmers were persuaded to make their land available for demonstration. The encouraging results convinced farmers and the response was overwhelming. They were ready to adopt the technology subject to availability of seeding machinery.



Germination of wheat crop at farmer's field



Excellent wheat crop at farmer's field

Renaming of the Directorate and AICRP-WC

The Directorate was upgraded to its present status in 2009 and was known as "Directorate of Weed Science Research (DWSR)". Recently, vide Council letter no NRM-24-9/2013-IA-II dated 27th November, 2014, the Directorate was renamed as "Directorate of Weed Research (DWR)". All India Coordinated Research Project on Weed Control (AICRP-WC) was also renamed as All India Coordinated Research Project on Weed Management (AICRP-WM).

Training on 'Advances in Weed Management' under CAFT

One-day training on 'Advances in Weed Management' was conducted on 14 October, 2014 for the participants of 21

days Career Advancement Faculty Training programme at JNKVV, Jabalpur. Dr. A.R. Sharma, Director DWR, briefed the twenty two trainees from different institutes and agricultural universities about the importance and purpose of such advance training. He emphasized that such training will help participating scientists to improve their future teaching and research programmes and extension activities relating to weed management. A total of eight lectures broadly covering cultural, mechanical, biological, chemical methods of weed managements, spraying techniques, climate change, weed utilization, herbicide residue analysis, and integrated weed management were delivered by the scientists/experts from the Directorate. Participants were also taken to research farm for interactive discussions. Dr. P. K. Singh, Principal scientist of DWR coordinated the programme.



Training-cum-Workshop on Herbicide Residue organized

A review of "Research cum Herbicide Residue Training Workshop of AICRP-WC Centres" was organized from 11-17 Nov., 2014 in which review of research work of past five years of AICRP-Weed Management centres under Programme-4 "Environmental impact of herbicides" was done. During his welcome address, Dr. A.R. Sharma, Director, DWR emphasized the need and importance of this Workshop-cum-Training programme and presented a detailed account on "Herbicide residue research in AICRP-Weed Management Centres."



The workshop was followed by an extensive hands-on training for all AICRP-WM residue chemists from Dr. Shobha Sondhia and Dr. P.P. Choudhury coordinated the training programme. The participants appreciated the course content covered in this training and expressed the utility of this training.



Model Training Course on "Weed management for sustainable oilseed and pulse production"

An eight-day Model Training Course (MTC) on 'Weed management for sustainable oilseed and pulse production' was organized during 16 to 23 December, 2014. Thirty senior agriculture officers from ten states participated in the training course. The programme was inaugurated by

Dr. V.S. Tomar, Vice Chancellor, Jawaharlal Nehru Krishi Viswavidyalaya, Jabalpur, Madhya Pradesh. Dr. P.K. Singh, Principal Scientist and Course Director briefed about the content of the programme. Dr. A.R. Sharma, Director, DWR, focused on the purpose of the training programme. The training programme was coordinated by Dr. K.K. Barman, Principal Scientist, and Dr. Raghwendra Singh, Senior Scientist.



Agriculture Education Day

The third Agriculture Education Day was celebrated on 10 December, 2014 to promote the spirit of agricultural science among school children. Thirty seven students along with their teachers from 5 different schools located in rural areas of Jabalpur, took part in the day-long activities. Inspirational talks, quiz competition and visits to information centre, laboratories and research



fields were organized to mark the day. Participating students were enlightened about the national agricultural research and education system in India by Director, Dr. A.R. Sharma. He also highlighted the opportunities existing for students pursuing their career in agricultural education. Dr. P.K. Singh, Pr. Scientist, told about the modern weed control methodologies. Dr. Sushil Kumar, Pr. Scientist, demonstrated how weed biomass and crop residues could be converted to highly valuable manure using vermicomposting technique. A quiz competition involving all the students was conducted by Dr. Shobha Sondhia and Dr. P.P. Choudhury, Sr. Scientists. In the closing ceremony, students were given certificate of participation and prizes were distributed to successful participants by the Director. The programme ended with vote of thanks given by Dr. K.K. Barman, Pr. Scientist and programme Convener.

Cleanliness Drive at DWR

DWR joins hand with the countries biggest-ever cleanliness drive launched by Prime Minister on 02, October, 2014. All staff members responded actively to the mission and participated with enthusiasm. The office was open on 02,



October and the staff took oath to devote 100 hour per year towards cleanliness. The cleanliness drive initiated at Directorate is motivating the people of adjoining areas for this noble cause.

Mid-term Review Meeting

The meeting was held on 7, 8, 20 October, 2014 and 12, 15 November 2014 under chairmanship of Director DWR. It was organized to review the progress of work done by different members of the staff, to take stock of the initiatives undertaken over the last 2½ years, to understand the problems faced by the staff members and to seek suggestions for improving the functioning and raise the standard of DWSR. In this meeting each scientist and technical staff of the directorate presented their work during the last 2½ years.

Vigilance Awareness Week

Directorate staff observed Vigilance Awareness Week during 27-01 November, 2014. All the staff of the Directorate took oath for honesty in our work and in public life also.



Communal Harmony Campaign Week

The Communal Harmony Week was celebrated at the Directorate from 19 October to 25 November, 2014 and Flag Day was observed on 25 November, 2014. Staffs of the Directorate were appraised about importance of the week for promoting communal harmony.

हिन्दी कार्यशाला

दिनांक 12 सितम्बर 2014 को निदेशालय के सभागार में समस्त वैज्ञानिकों एवं तकनीकी अधिकारियों/कर्मचारियों हेतु रा.का. समिति द्वारा हिन्दी कार्यशाला का आयोजन किया गया, जिसमें डॉ.

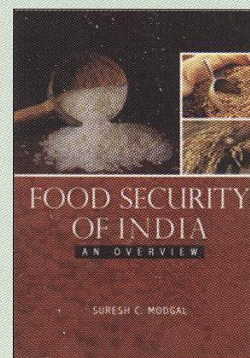


राघवेंद्र सिंह, वरिष्ठ वैज्ञानिक द्वारा "वैज्ञानिक विधि से मौन (मधुमक्खी) पालन" विषय पर वक्तव्य दिया गया। निदेशालय की राजभाषा कार्यान्वयन समिति द्वारा दिनांक 27.12.2014 को निदेशक महोदय की अध्यक्षता में त्रैमासिक बैठक का आयोजन किया गया, जिसमें निदेशालय के सभी अनुभाग प्रभारियों ने भाग लिया। बैठक में तिमाही रिपोर्ट पर विचार, पिछली बैठक के कार्यवृत्त पर विचार, हिन्दी पत्राचार बढ़ाने एवं धारा 3(3) का शत-प्रतिशत पालन करने के संबंध में विचार किया गया, साथ ही पिछली बैठक में लिये गये निर्णयों की कार्रवाई पर भी विचार किया गया।

BOOK REVIEW

Ensuring food security is an issue of great importance for a country like India where more than one-third of the population is estimated to be absolutely poor and one-half of all children malnourished in one way or other. In this context, the book "Food Security of India- An Overview" written by Dr Suresh C. Modgal, is an excellent compilation on food and nutritional security of the country.

The book is compiled with 18 chapters having 340 pages covering various food security issues at the national level. Keeping in mind the issues related to food and nutritional security in India, the book can be rated as 'master piece'. This compilation clearly shows the hard work, dedication and vision of the author to this important issue of our country. This book must be read by all those who are concerned with agricultural production and policy making in India.



Author : Suresh C. Modgal

Publisher : National Book Trust, India

Price : ₹170/-

PERSONALIA

Award

Dr. A.R. Sharma, Director, DWR received 'Award of Honour' for outstanding alumni from Mr. J.C. Rana, Director of Agriculture, Himachal Pradesh at the Alumni Meet of CSK HPKV, Palampur on 22 November, 2014



Participation in Trainings

- Sri R.S. Upadhyay attended training programme on conservation agriculture held during 27 September to 4 October, 2014 at CSSRI, Karnal.
- Dr. C. Sarathambal attended Centre of advanced faculty training on "Management of soil health: challenges and opportunities" conducted by JNKVV, Jabalpur during 29 September to 19 October, 2014. She also attended winter school on "Waste Recycling and Resource Management through Rapid Composting Techniques" conducted by IISS, Bhopal during 3-23 December, 2014.

Participation in Conferences/Workshop/Meetings

- Dr. A.R. Sharma participated in the XXIII meeting of Regional Committee No. VII comprising the states of Maharashtra, Madhya Pradesh, Chhattisgarh and Goa from 17-18 October, 2014 at Raipur.
- Dr. P.K. Singh and Dr. R.P. Dubey participated in 'National Agriculture Fair on Organic Farming' organized by M.P. Govt. on 18-20 October, 2014 at Mandla (M.P.).
- Dr. A.R. Sharma participated in the meeting with DG, ICAR to review status of 'Vision-2050' document of NRM division on 27-28 October, 2014 at ICAR, New Delhi.
- Dr. C. Sarathambal participated in national conference on 'Empowering Mankind with Microbial Technologies'

organised by Tamil Nadu Agricultural University, Coimbatore during 12-14 November, 2014.

- Dr. A.R. Sharma and Dr. Raghwendra Singh participated in the 'National Symposium on Agricultural Diversification for Sustainable Livelihood & Environmental Security' at PAU, Ludhiana and presented a lead article in the technical session on 'Agriculture diversification: Efficient use of water, nutrients, weeds, energy, machinery and pesticides' from 18-20 November, 2014.
- Dr. A.R. Sharma participated in the 'Alumini Meet' and also reviewed the progresses of research work of AICRP-Weed Management centre at CSK HPKV, Palampur on 22 November, 2014.
- Dr. R.P. Dubey attended 31st Biennial Workshop of AICRP-IFS during 22-24 December, 2014 at TNAU, Coimbatore, Tamil Nadu.
- In the month of October-November, 2014, Mid-term Review Meetings were organized at Directorate. All scientist, technical officers and administrative staff attended the meeting.

Interaction Meeting

An interaction meeting of DWR scientists with Dr. R.C. Gautam, Ex-Dean P.G. School IARI and Dr. U.K. Behera Principal Scientist, Agronomy, IARI, New Delhi was held on 15 December, 2014.



Visitors

- Dr. R.C. Gautam, Former Dean & Joint Director (Education) IARI, New Delhi on 15 December, 2014.
- Dr. U.K. Behera, Principal Scientist (Agronomy), IARI, New Delhi on 15 December, 2014.
- Dr. D.S. Rana, Principal Scientist (Agronomy), IARI, New Delhi on 20 December, 2014

Farewell

- Dr. V.P. Singh, Pr. Scientist (Agronomy) was transferred to Indian Institute of Sugarcane Research, Lucknow and given farewell on 06 December, 2014.



Appointments

- Shri Subhash Chander joined as Scientist (Economic Botany) on 13 October, 2014.
- Shri M.S. Hedau from IISS, Bhopal joined DWR on 13 October, 2014 as Assistant Finance & Accountant Officer.



From Director's Desk



I am pleased to present the current issue of 'Weed News' highlighting the achievements and activities of the Directorate during October - December, 2014. In view of the functional mandate, the Directorate was renamed as 'ICAR-Directorate of Weed Research' and 'AICRP on Weed Management'. A model training course on 'Weed management in pulses and oilseeds' was organized from 16-23 December, 2014, in which, 29 scientists from ICAR institutes, SAUs and KVKs participated. A Training-cum-Workshop on 'Herbicide residue analysis' was held from 11-17 November, 2014 in which 13 residue chemists of AICRP- Weed Management centers participated. Agriculture Education Day, Hindi Workshop, Vigilance Awareness and Communal Harmony Awareness programmes were also organized. As per the instructions from the highest level in the Government, a major cleanliness drive was initiated from 2nd

October, 2014, and 2 km long boundary of the Directorate along the main road was cleared of unwanted vegetation and other waste material by the staff members.

The Directorate has further intensified the research and extension programmes on weed management. Sowing of all *Rabi* crops was completed by November-end. A new crop of '*Gobhi sarson*' (var. RP-09) with yield potential of >5 t/ha was introduced. On-farm trials were conducted in collaboration with KVKs at Damoh, Narsinghpur, Katni and Jabalpur, besides the regular trials in several localities around Jabalpur. Zero-till sown crops of wheat, chickpea, maize, mustard have shown remarkable performance with much less weed infestation compared with the conventional practice. In fact, ours is probably the only research farm where near 100% of the area has been maintained following the principles of conservation agriculture.

On completion of 2½ years of my term as Director, a series of mid-term review meetings were held during October - November, 2014 to know the progress of various initiatives taken in the past and seek suggestions from all staff members for further improvement. A thorough analysis of the achievements made and the deficiencies was done, and decisions were taken to further improve the functioning and research output of the Directorate.

Editorial Team: Dr. Sushil Kumar, Dr. Bhmesh Kumar, Dr. Raghwendra Singh, Dr. Meenal Rathore and Mr. Sandeep Dhagat

Published by: Dr. A.R. Sharma, Director

ICAR - Directorate of Weed Research, Jabalpur - 482 004 (M.P.)

Phones: +91-761-2353001, 2353101, 2353138, 2353934, Fax: +91-761-2353129,

E-mail: dirdwsr@icar.org.in Website: <http://www.nrcws.org>