

# PROGRAMME

## ISWS Biennial Conference

Banaras Hindu University, Varanasi, India

28-30 November, 2024



Supported by



## Organizers

Indian Society of Weed Science

Banaras Hindu University

ICAR - Directorate of Weed Research

Indian Council of Agricultural Research



## Oral paper presentation instructions

All PowerPoint presentations (With indication of Date and Session and authors name) should be submitted to the ISWS Conference Office (iswsjbp@gmail.com), immediately after your registration on 28<sup>th</sup> November 2024.

All session rooms are equipped with a lectern, lectern microphone, data projector, screen and a laptop with PowerPoint software only.

### Oral Presentations

The Oral Paper presenting presenters are **requested to follow the time strictly and restrict their presentation to the time allotted for their presentation (Please refer to Technical Program).**

- Plenary lecture presentations : 40 minutes
- Lead lecture presentation : 20 minutes
- Invited oral lecture presentation : 12 minutes
- Oral lecture presentation : 7 minutes

It is recommended that for ease of viewing by delegates, Microsoft PowerPoint be utilised for all sessions. Please note that only one source of projection will be available.

**(November 28: Day 1)**

	Main Hall	Conference Hall 1	Conference Hall 2	Exhibition Area	Cafeteria Garden	Reception			
8:00	Oral-1	Oral-2	Oral-3		Breakfast	8:00-9:30 Registration	8:00		
8:30									8:30
9:30	Inaugural session	<div>Welcome Address : Prof. S.V.S. Raju, Director, IAS, BHU, Varanasi ISWS President's Address : Dr. J.S. Mishra, President, ISWS, Jabalpur Address by Guest of Honor: Dr. S.K. Chaudhari, DDG (NRM), ICAR, New Delhi Release of Publications : ISWS Awards Announcement: Dr. R.P. Dubey, Secretary, ISWS, Jabalpur Address by Chief Guest : Dr. Himanshu Pathak, Secretary, DARE &amp; DG, ICAR, New Delhi Chairman's Remarks : Dr. Panjab Singh, Chancellor, RLBCAU, Jhansi Vote of Thanks : Prof. U.P. Singh, Dean, IAS, BHU, Varanasi</div>					9:30		
10:00								10:00	
10:30								10:30	
11:00						High Tea		11:00	
11:30		Keynote Lecture and Plenary Presentation	<div>11:30-12:10 Keynote Lecture by <b>Dr. Robert L. Zimdahl, USA</b> 12:10-12:50 Plenary Lecture 1 by <b>Dr. Nimal Chandrasena, Australia</b></div>					11:30	
12:00								12:00	
12:30								12:30	
13:00				Poster Session	Lunch		13:00		
14:00	Technical Session 1	Technical Session 2	Technical Session 3				14:00		
14:30									14:30
15:00									15:30
15:30				Session Tea					15:30
16:00									16:00
16:30									16:30
17:00									17:00
17:15							Session Tea		
17:30	General Body Meeting of ISWS						17:30		
18:00							18:00		
18:30	Cultural event						18:30		
19:00							19:00		
19:30							19:30		
20:00					Dinner		20:00		
21:00							21:00		

ISWS Biennial Conference 2024

(November 29: Day 2)

	Main Hall	Conference Hall 1	Conference Hall 2	Exhibition Hall	Food area	Reception	
8:30							8:30
9:00					Breakfast		9:00
9:30							9:30
10:00	Plenary Presentation	9:30-10:10 Plenary Lecture 2 Dr. Samunder Singh, Hisar					10:00
		10:10-10:50 Plenary Lecture 3 Dr. A.K. Singh, New Delhi					
10:30							10:30
11:00							11:00
11:15	Technical Session 4	Technical Session 5	Technical Session 6				11:15
12:00							12:00
12:30							12:30
13:00							13:00
				Poster Session	Lunch		
13:40							13:40
14:00	Special Session on Industry						14:00
14:30							14:30
15:00							15:00
15:30	Technical Session 7	Technical Session 8	Technical Session 9				15:30
15:45							15:45
16:00							16:00
16:30							16:30
17:00							17:00
17:15							17:15
18:00	Closing ceremony Vote of Thanks						18:00
18:30							18:30
19:00							19:00
19:30							19:30
20:00					Dinner		20:00
20:30							20:30



# Programme

## ISWS Biennial Conference 2024

*"Climate-smart Weed Management for Global Food Security"*

28-30 November, 2024, Swatantrata Bhavan, Banaras Hindu University, Varanasi, India

### THURSDAY, NOVEMBER 28, 2024

Venue: Main Hall

Date/(time): 28/11/2024 (9:30-11:05)

#### INAUGURAL SESSION

Welcome Address	: Prof. S.V.S. Raju, Director, IAS, BHU, Varanasi
ISWS President's Address	: Dr. J.S. Mishra, President, ISWS, Jabalpur
Address by Guest of Honour	: Dr. S.K. Chaudhari, DDG (NRM), ICAR, New Delhi
Release of Publications	:
ISWS Awards Announcement	: Dr. R.P. Dubey, Secretary, ISWS, Jabalpur
Address by Chief Guest	: Dr. Himanshu Pathak, Secretary, DARE & DG, ICAR, New Delhi
Chairman's Remarks	: Dr. Panjab Singh, Chancellor, RLBCAU, Jhansi
Vote of Thanks	: Prof. U.P. Singh, Dean, IAS, BHU, Varanasi

#### High Tea

Date/(time): 28/11/2024 (11:05-11:30)

Venue: Main Hall

Date/(time): 28/11/2024 (11:30-13:00)

#### KEYNOTE AND PLENARY SESSION

Chair:	Dr. Raghavan Charudattan, USA
Co-Chair:	Dr. M.S. Bhullar, Ludhiana
Rapporteurs:	Dr. T. Ramprakash and Dr. P.K. Mukherjee

*The Future of Weed Science*

**Dr. Robert L. Zimdahl, USA**

*Keynote lecture*

*Promoting the Utilization of Weeds – A Way Forward*

**Dr. Nimal Chandrasena, Australia**

*Plenary lecture*

*Discussion and concluding remarks by Chair & Co-Chair*

#### Lunch/Posters

Date/(time): 28/11/2024 (13:00-14:00)

#### TECHNICAL SESSIONS

(Concurrent Sessions in Main Hall, Hall 1 and Hall 2)

Venue: Main Hall

Date/(time): 28/11/2024 (14:00-17:15)

#### TECHNICAL SESSION 1: Climate-smart weed management and herbicide resistance and its management

Chair:	Dr. L.S. Brar, Ludhiana
Co-Chair:	Dr. V.K. Singh, Hyderabad
Rapporteurs:	Dr. K.N. Geetha and Dr. C.R. Chethan

*Global herbicide resistance challenge: Emphasizing the need for an integrated weed management framework*

**Dr. Prashant Jha**

**Lead lecture**

*Impact of global warming on herbicide efficacy and weed control for sustainable food production*

**Dr. Mithila Jugulam**

**Lead lecture**

*A new dimension on cost-effective precision weed management strategies in light of climate change*

**Dr. C.R. Chinnamuthu**

**Lead lecture**

*Weed management in herbicide-tolerant rice under dry direct-seeded rice with special reference to weedy rice*

**Dr. V.K. Choudhary**

*Understanding temporal emergence and competition between weeds and crops for sustainable weed management*

**Dr. Ram Kumar Singh**

*Direct-seeded rice as an alternate establishment method of rice: Lessons learnt from two decades of studies in Haryana on weed dynamics to herbicide-tolerant rice*

**Dr. Dharam Bir Yadav**

*Effect of planting pattern and intercropping systems on weed dynamics and partitioning of nutrients among weeds and pigeonpea*

**Dr. Indu Bhushan Pandey**

*Manoeuvring tolerant cultivars for weed management in direct-seeded rice*

**Dr. Malay Kumar Bhowmick**

*Modelling geographic distribution of Echinochloa colona and Cyperus rotundus under current and future climate scenarios*

**Dr. Yogita Gharde**

*Conservation tillage and in-situ rice residue driven weed dynamics, soil temperature fluctuation, nutrient status and wheat productivity under aberrant climate nexus in north-western Indo-Gangetic Plain*

**Dr. Ankur Chaudhary**

*Exploring the molecular basis of imazethapyr resistance in Commelina and Echinochloa colona*

**Dr. Deepak Pawar**

*Weed management and yield improvement of greengram through climate resilience management practices*

**Dr. K.S. Shashidhar**

*Climate-smart weed management on pearl millet under custard apple-based agri-horticulture system in Eastern Plain Zone*

**Dr. Pratik Sanodiya**

*Research evidences of climate-smart weed management in root and tuber crops*

**Dr. Namdev Mhaskar**

*Optimizing weed management and irrigation regime on spring maize performance amidst climate Variability under Tarai region*

**Miss. Munny Chinyo**

*Performance of different Phalaris minor Retz. biotypes growing with and without wheat in relation to different herbicides*

**Mr. Sangam**

*Discussion and concluding remarks by the Chair and Co-chair*

**TECHNICAL SESSION 2:** Recent approaches for integrated weed management in rice and rice-based cropping systems

Chair: **Dr. A.N. Rao, Hyderabad**

Co-Chair: **Dr. B.P. Bhatt, New Delhi**

Rapporteurs: **Dr. Vimalkumar J. Patel and Dr. J.K. Soni**

*Closing yield and profitability gaps caused by weeds in smallholder rice production*

**Dr. Virendra Kumar**

**Lead lecture**

*Integration of pre-emergence herbicide with imazethapyr for sustainable weed control in HT rice*

**Dr. Simerjeet Kaur**

**Invited oral lecture**

*Weed dynamics in deep water rice in varying land situations along the Brahmaputra River ecotone zone in erstwhile Sibsagar district, Assam*

**Dr. Iswar Chandra Barua**

**Invited oral lecture**

*A novel herbicide delivery method to increase efficacy and weed management in transplanted rice ecosystem*

**Prof. Murali Arthanari Palanisamy**

*Does weed diversity influence yield losses in dry direct-seeded rice?*

**Prof. Buddhadeb Duary**

*Weed management in rice-wheat-sesbania cropping system under conservation agriculture*

**Dr. Tej Pratap**

*Crop establishment and weed management techniques for enhancing productivity of rice fallow greengram*

**Dr. Srinivasulu Katragadda**

*Bio-efficacy evaluation of new herbicide molecule penoxsulam 9% + pyrazosulfuron-ethyl 6% WDG against weed complex in transplanted rice*

**Dr. N. Ananda**

*Weed management in rice: A need for sustainable food security in Chhattisgarh*

**Dr. Veenapani Dubey**

*Effects of tillage and herbicide on weed interference and crop yield in a direct-seeded rice-wheat-greengram system in eastern Indo-Gangetic Plains*

**Dr. Sonaka Ghosh**

*Assessment of weed diversity and critical crop-weed competition impact on upland rice using spatial techniques in the mid-hills of Meghalaya*

**Dr. N. Premaradhya**

*Integrated weed management in semi-dry rice*

**Dr. Y. Sreeja**

*Impact of crop establishment methods, nutrient levels and weed management practices on weed suppression and yield optimization in hybrid rice*

**Dr. Abhinandan Singh**

*Geospatial analysis of impact of weed management practices in rice crop of Chhattisgarh plains*

**Dr. Manju Tiwari**

*Weed flora and their diversity under the non-chemical weed management in direct-seeded rice*

**Dr. Mona Nagargade**

*Crop establishment methods and weed management practices influence weed dynamics, system productivity and profitability in rice-chickpea-greengram cropping system*

**Dr. Muni Pratap Sahu**

*Comparative study of weed control methods on weed dynamics and productivity in transplanted rice in Eastern Uttar Pradesh*

**Mr. Abhishek Mishra**

*Weed management through conservation agriculture practices under rice–wheat system*

**Miss. Kajal Verma**

*Evaluation of the bio-efficacy of bispyribac-sodium 9.1% + metsulfuron-methyl 1.2% + chlorimuron-ethyl 1.2% SC w/v against weeds in transplanted paddy*

**Mr. Sameer Shrivastava**

*Evaluation of weed competitive ability of rice cultivars in dry direct-seeded rice under changing climate*

**Miss. Anamika Pandey**

*Effect of integrated weed management practices in transplanted rice*

**Miss. Mausmi Rastogi**

*A Comprehensive study to weed control practices for various growth attributes and yield of direct-seeded rice*

**Miss. Ruchi Rajpoot**

*Can remotely piloted aerial application systems do a broadcast aerial herbicide application in rice cultivation?*

**Mr. Reuben Senyo Kudiabor**

*Discussion and concluding remarks by the Chair and Co-chair*

**Venue: Hall 2**

**Date/(time): 28/11/2024 (14:00-17:15)**

**TECHNICAL SESSION 3:** Current trends in integrated weed management in pulses and oilseeds

**Chair: Dr. V. Pratap Singh, Varanasi**

**Co-Chair: Dr. K. Sammi Reddy, Baramati**

**Rapporteurs: Dr. Puja Ray and Dr. Dasari Sreekanth**

*Climate-smart weed management in pulse crops for sustainable productivity and profitability*

**Dr. Narendra Kumar**

**Lead lecture**

*Weed management in chickpea through broad-spectrum post-emergence herbicides*

**Dr. A.S. Rao**

**Invited oral lecture**

*Integrated weed management framework for oilseeds: A path towards self sufficiency*

**Dr. Kulasekaran Ramesh**

**Invited oral lecture**

*Integrated weed management in soybean with new generation ready mix pre-emergence herbicides*

**Dr. B.T. Nadagouda**

*Weed management in sesame using pre- and post-emergence herbicides*

**Dr. Jagadeesh Hosmath**

*Chemical weed management in blackgram for enhancing productivity*

**Dr. Sreenivasulu Sakamuri**

*Efficacy of herbicides against diverse weed flora of Indian mustard*

**Dr. Dinesh Sah**

*Integrated weed management in Indian mustard under NEH region*

**Dr. Rajvir Sharma**

*Impact of post-emergence herbicides on weed management, yield performance and economic viability in mungbean cultivation*

**Dr. M. L. Mehriya**

*Integrated weed management in chickpea under irrigated conditions*

**Mr. D.D. Chaudhari**

*Improving the productivity and weed control in groundnut through ready-mix post-emergence herbicides*

**Dr. B.S. Yenagi**

*Yield maximization in soybean through use of ready-mix post-emergence herbicides in rainy season*

**Dr. S.S. Nooli**

*Efficient weed management in chickpea through new-generation herbicides*

**Dr. Lokesh Jain**

*Deciphering the post-emergence herbicide tolerance in major pulse crops based on phytotoxic, morpho-physiological and yield variability*

**Dr. Chaitanya Prasad Nath**

*Efficient weed management in lentil through new-generation herbicides*

**Dr. Anju Khangarot**

*Tillage and weed management practices influence weed prevalence, system crop and energy productivity, and environmental footprints of maize-wheat-green gram*

**Mr. Narendra Kumar**

*Effect of dose and time of imazethapyr on weed and yield in summer season blackgram*

**Mr. Lalchand Kumawat**

*Impact of nutrient and weed management practices on chickpea productivity and weed dynamics*

**Mr. Mohammad Vaheed**

*Efficacy of pre- and post-emergence herbicides for chemical weed management in sesame*

**Miss. Uma Bernaiya**

*Bio-efficacy of post-emergent herbicides in common bean under rainfed condition of Kashmir Valley*

**Miss. Aroosa Khatoon**

*Effect of post-emergence herbicides combined with guar gum polymer on weed dynamics, growth, productivity and economic performance of mungbean*

**Miss. Fuhrar Sharma**

*Integrated weed management for chocolate weed (*Melochia corchorifolia* L.) in sesame*

**Mr. Dhanu Unnikrishnan**

*Bio-efficacy of post-emergence herbicides against weeds in soybean*

**Mr. Alok Sinha**

*Discussion and concluding remarks by the Chair and Co-chair*

POSTERS/Tea

Date/(time): 28/11/2024 (17:15-17:30)

General Body Meeting of ISWS

Date/(time): 28/11/2024 (17:30-18:30)

Cultural event

Date/(time): 28/11/2024 (18:30-19:30)

Dinner

Date/(time): 28/11/2024 (19:30-21:30)

## Friday, November 29, 2024

Venue: Main Hall

Date/(time): 29/11/2024 (9:30-11:00)

### PLENARY SESSION-2

Chair: Dr N.T. Yaduraju

Co-Chair: Dr. Muthukumar Bhagawathianan, USA

Rapporteurs: Dr. Simerjeet Kaur and Dr. Surabhi Hota

*Herbicide-resistance in weeds and their management under climate change scenario*

**Dr. Samunder Singh, Hisar**

Plenary lecture

*Herbicide-tolerant crops and weed management with special reference to direct-seeded rice*

**Dr. A.K. Singh, New Delhi**

Plenary lecture

*Discussion and concluding remarks by the Chair and Co-chair*

### TECHNICAL SESSIONS

(Concurrent Sessions in Main Hall, Hall 1 and Hall 2)

Venue: Main Hall

Date/(time): 29/11/2024 (11:00-13:00)

**TECHNICAL SESSION 4:** Digital technologies and extension strategies in weed management

Chair: Dr. N.N. Angiras, Palampur

Co-Chair: Dr. Virendra Kumar, Philippines

Rapporteurs: Dr. N. Ananda and Dr. Deepak V. Pawar

*Role of digital technology on advanced weed management*

**Dr. Muthukumar Bhagawathianan**

Lead lecture

*Role of weed management technologies for farm profitability and sustainability*

**Dr. M.S. Bhullar**

Lead lecture

*Weed management in direct-seeded rice: A farmer field study*

**Dr. Meenakshi Sangwan**

*Brush-cutter with rotary tiller: An economically viable weeding tool for small and marginal farmers of India*

**Dr. C.R. Chethan**

*Punjab successfully converted additional 2.5 lac ha area under Kharif maize?*

**Dr. Pardeep Kumar Sagwal**

*Optimizing triafamone 20% + ethoxysulfuron 10% herbicide dose through drone technology for sustainable weed management in rice*

**Dr. Ashirbachan Mahapatra**

*Molecular profiling of Echinochloa species using random amplified polymorphic DNA, simple sequence repeat, and inter-simple sequence repeat markers*

**Dr. Sahadeo Kuwardadra**

*Impact of improved weed management technologies: An econometric approach*

**Dr. A. Jamaludheen**

*Advancing herbicide development: A computational approach combining physicochemical parameter and scaffold analysis*

**Miss. Priyanka Rani**

*Herbicide use pattern and economics of weed control in dry and tar-water sowing methods of dry direct-seeded rice at farmer's field in Tarn Taran district of Punjab*

**Dr. Navjot Singh Brar**

*HierbaRobo and HierbaApp: An AI-powered weeding robot and android mobile application for weed identification and removal*

**Mrs. Justina Michael**

*Modern agriculture's new weed control approach*

**Mr. Ankur Singh**

*Empowering weed management through artificial intelligence and digital technologies*

**Mr. Ambuj Kumar Singh**

*Impact assessment of chemical weed management technology in transplanted rice through field demonstration*

**Miss. S. Karubakee**

*Discussion and concluding remarks by the Chair and Co-chair*

**Venue: Hall 1**

**Date/(time): 29/11/2024 (11:00-13:00)**

**TECHNICAL SESSION 5:** New directions for integrated weed management in wheat, maize and cotton

Chair: **Dr. A.K. Singh, New Delhi**

Co-Chair: **Dr. U.P. Singh, Varanasi**

Rapporteurs: **Dr. Malay Kumar Bhowmick and Dr. Himanshu Mahawar**

*Weed management under conservation agriculture systems*

**Dr. T.K. Das**

**Lead lecture**

*Conservation agriculture practices increases weed problems in rice-wheat system: Myth or reality*

**Dr. U.P. Singh**

**Invited oral lecture**

*Weed management in maize during summer season in Assam*

**Dr. Khagen Kurmi**

*Bio-efficacy of post-emergent herbicides in wheat under temperate condition of Kashmir valley*

**Dr. Ahmad Abdullah Saad**

*Management of itch grass (Rottboellia cochinchinensis) in maize*

**Dr. M.B. Patil**

*Weed control efficacy of topramezone 33.6% SC against complex weed flora of maize*

**Dr. S.B. Yogananda**

*Integrated weed management in cotton-based intercropping system*

**Dr. P. Saravanane**

*Compatibility of herbicides tank mixed with nano urea in wheat and impact on wheat and weeds*

**Dr. Amarjeet Nibhoria**

*Early post-emergence herbicides effect on weeds, yield and economic of Bt cotton*

**Dr. Jainendra Kumar Singh**

*Weed management in cotton using new ready-mixed and tank-mix herbicides to enhance productivity, profitability, and fibre quality*

**Dr. Rishi Raj**

*Eco-friendly weed management in maize through legume intercropping in the hilly terrain of Eastern Himalayas*

**Dr. Jeetendra Kumar Soni**

*Evaluation of performance of new herbicide molecules for enhanced productivity and weed management in maize under rainfed ecology of Madhya Pradesh*

**Dr. Gaurav Mahajan**

*Influence of integrated nutrient and weed management on yield and weed dynamics of zero till maize*

**Dr. Kesipreddy Naganjali**

*Impact of herbicide mixture on weed flora, yield and quality of Rabi popcorn*

**Dr. Partha Sarathi Patra**

*Efficacy of mesotrione on weed management, growth and yield of summer maize*

**Dr. Mahua Banerjee**

*Optimizing weed management and herbicide efficacy in wheat: Influence of rice residue mulch and herbicide application methods in zero-tillage systems*

**Mrs. Charul Chaudhary**

*Supplemental effects of chemical weed management in straw-mulched rainfed maize under drought-prone central plains of India*

**Mr. Diyan Mandal**

*Discussion and concluding remarks by the Chair and Co-chair*

**Venue: Hall 2**

**Date/(time): 29/11/2024 (11:00-13:00)**

**TECHNICAL SESSION 6:** Current developments in integrated weed management in agri- and horticultural crops and systems

Chair: **Dr. A.S. Rao, Hyderabad**  
Co-Chair: **Dr. Sunil Kumar, Modipuram**  
Rapporteurs: **Dr. B. Duary and Dr. M.G. Deeksha**

*Integrated weed management in seed spices*

**Dr. Arvind Verma**

**Lead lecture**

*Integrated weed management in millets*

**Dr. K.N. Geetha**

**Invited oral lecture**

*Impact of pendimethalin on germination, growth, and productivity of summer pearl millet*

**Dr. Vinodkumar B. Mor**

*Fertilizer and weed management in sugarcane*

**Dr. D.D. Patel**



*Assessment of pre-mix herbicides on weed dynamics, growth, and yield of barley in a guava based agri-horti system*

**Dr. Manoj Kumar Singh**

*Effect of weed management practices on pearl millet productivity and weed dynamics under semi-arid condition of Rajasthan*

**Dr. Seema Sharma**

*Influence of crop establishment methods and diversification of rice-based cropping systems on weed density and diversity*

**Dr. Mukesh Kumar**

*Effect of integrated weed management practices and nutrient management on weed and yield of millets under rainfed agroecosystem*

**Dr. Rakesh Kumar**

*Standardization of weed management strategy for commercial farming of sweet potato in Indian conditions*

**Dr. J. Suresh Kumar**

*Three years weed dynamics in different crop establishment and weed management methods*

**Dr. Nikhil Kumar Singh**

*Quantification of garlic to pre- and post-emergence herbicides*

**Dr. Hiren Der**

*Evaluation of new herbicide molecules for integrated weed management in sugarcane plant cane*

**Dr. Sourabh Munnoli**

*Efficacy of new herbicides on weed dynamics and productivity of clusterbean*

**Dr. Shweta Gupta**

*Dynamics of weed flora in major Kharif crops*

**Dr. B.S. Gohil**

*Effect of eco-friendly weed management practices on weed dynamics and yield of organic Tomato*

**Miss. Meesala Srija**

*Nutrient and weed management in buckwheat (*Fagopyrum esculentum*) after Sali rice*

**Mr. Bamon Timung**

*Discussion and concluding remarks by the Chair and Co-chair*

**Lunch/Posters**

**Date/(time): 29/11/2024 (13:00-13:40)**

**Venue: Main Hall**

**Date/(time): 29/11/2024 (13:40-15:00)**

### **Special Session on Industry**

**Chair: Dr. J.S. Mishra, Jabalpur**

**Co-Chair: Dr. R.P. Dubey, Jabalpur**

**Convener: Dr. V.K. Choudhary, Jabalpur**

**Rapporteurs: Dr. Yogita Gharde and Dr. Todar Mal Poonia**

*Regenerative agriculture and sustainable weed management*

**Dr. Partha Baruah (Bayer Crop Science)**

*Weed control challenges and proactive approaches*

**Dr. Sangarsh Khade (Syngenta)**

*Designing and developing sustainable crop protection products*

**Dr. Edwin Rogbell (Corteva)**

*Clethodim: A novel herbicide for weed management in soybean*

**Dr. Anand Jha (UPL)**

**ADAMA, BASF, PI Industries and Dhanuka**

*Discussion and concluding remarks by the Chair and Co-chair*

## TECHNICAL SESSIONS

**(Concurrent Sessions in Main Hall, Hall 1 and Hall 2)**

**Venue: Main Hall**

**Date/(time): 29/11/2024 (15:00-17:15)**

**TECHNICAL SESSION 7: Biological weed control and weed utilization**

**Chair: Dr. Nimal Chandrasena, Australia**

**Co-Chair: Dr. Sushil Kumar, Jabalpur**

**Rapporteurs: Dr. K. Ramesh and Dr. A. Jamaludheen**

### MAHESH K. UPADHAYA AWARD LECTURE

*Biological control of weeds by using plant pathogens: now and in the future*

**Dr. Raghavan Charudattan**

**Lead lecture**

*Please don't degrade weeds; they are highly medicinal*

**Dr. C.K. Venugopal**

*Allelopathic potential of *Alternanthera philoxeroides* (Mart.) Griseb. extracts and its bioefficacy as bioherbicide in blackgram*

**Dr. S. Kamala Bai**

*Climate change influence on multitrophic interactions of invasive aquatic weeds and their biocontrol agents*

**Dr. Puja Ray**

*Non-chemical approaches to weed management in organic systems*

**Dr. Amandeep Singh Sidhu**

*Isolation and characterization of phytopathogenic microbes from plant phyllosphere for phytotoxicity against *Echinochloa colona**

**Dr. Pramod Kumar Gupta**

*Unravelling the effects of drought stress on rice and weeds through physiological and biochemical approaches*

**Dr. Sreekanth Dasari**

*Insecticidal activities and phytochemical screening of crude extract of *Argemone mexicana* L.*

**Dr. Kranti Waghmare**

*Use of weed biochar as a novel technology in carbon sequestration for enhancing the crop productivity under climate change*

**Miss. Suchismita Satapathy**

*Bio-herbicides: an eco-friendly approach for integrated weed management*

**Miss. Kratika Nayak**

*Molecular diversity of fungal pathogens associated with *Trianthema portulacastrum* for the development of mycoherbicide*

**Mr. Vaddi Saitheja**

*The utility of weeds in different fields*

**Mr. Vishwajeet Singh**

*Germination ecology of annual ryegrass (*Lolium rigidum* G.) populations in Eastern Australia*

**Mr. Pankaj Ghodke**

*Utilization of a widespread invasive taxa *Prosopis juliflora* for metal bioaccumulation and detoxification in metal-contaminated Sites*

**Mr. Akil Prasath**

*Ecological Assessment of Agrestals Weeds of Wheat Crop in Moradabad, Uttar Pradesh*

**Mr. Sachin Sharma**

*Discussion and concluding remarks by the Chair and Co-chair*

**Venue: Hall 1**

**Date/(time): 29/11/2024 (15:00-17:15)**

**TECHNICAL SESSION 8: Herbicide residues and weeds quarantine methods**

Chair: **Dr. Samunder Singh, Hisar**

Co-Chair: **Dr. C. Chinnusamy, Coimbatore**

Rapporteurs: **Dr. P. Murali Arthanari and Dr. Sahadeo Kuwardadra**

*Monitoring herbicide residues under climate change*

**Dr. Shobha Sondhia**

**Lead lecture**

*Integrated approaches for safe crop production: herbicide residue management*

**Dr. T. Ramprakash**

**Invited oral lecture**

*Importance of quarantine laws for restricting expansion of weed seeds*

**Dr. Mool Chand Singh**

**Invited oral lecture**

*Hidden tale of glyphosate in Indian environment*

**Dr. Tirthankar Banerjee**

*Adengo SC 465®: A reliable ally in the battle against hard to control weeds in corn*

**Dr. Ramisis Fulgencio**

*Mateno More®: A promising solution for controlling phalaris minor & mix of broad leaves weed in wheat crop*

**Dr. Karanpreet Singh**

*Surfactant-induced modifications in leaching patterns of mesosulfuron-methyl and iodosulfuron-methyl and environmental impact*

**Dr. Harshdeep Kaur**

*Trace level quantification of tembotrione, TCMB and M5 in soil, water and plant*

**Dr. Debabrata Ghoshal**

*Development of an extraction method for novel triketone and pyrazolone herbicide from various matrices by using response surface methodology and genetic algorithm models*

**Mr. Atanu Sarkar**

*Adsorption-desorption dynamics of glyphosate in wheat straw biochar enriched biomixtures*

**Miss. Garima Sethi**

*Trace level analysis of glyphosate and AMPA in water using LC-MS/MS*

**Mr. Subhajit Rakshit**

*Discussion and concluding remarks by the Chair and Co-chair*

**Venue: Hall 2**

**Date/(time): 29/11/2024 (15:00-17:15)**

**TECHNICAL SESSION 9: Management of parasitic, invasive and aquatic weeds**

**Chair: Dr. Prashant Jha, USA**

**Co-Chair Dr. C.R. Chinnamuthu, Coimbatore**

**Rapporteurs: Dr. S. Kamala Bai and Dr. Archana Anokhe**

*Management of Orobanche in mustard*

**Dr. R.S. Jat**

**Lead lecture**

*Integrated weed management in plantation crops*

**Dr. P. Prameela**

**Invited oral lecture**

*Phytoremediation: aquatic weed-based technology for water quality improvement in peri-urban areas of India*

**Dr. P.J. Khankhane**

**Invited oral lecture**

*Impact of Lantana camara invasion on major soil nutrients and floral diversity of forest in Chhattisgarh*

**Dr. Neelu Singh**

*Parasitic weed Cuscuta in lucerne and its management*

**Dr. Vimalkumar J. Patel**

*Ecological consequences of Singapore Daisy invasion on the native weed flora*

**Dr. P. Gayathri Karthikeyan**

*Influence of Lantana camara removal by uprooting on soil microbial properties in deciduous forest of Balrampur, Chhattisgarh*

**Dr. Himanshu Mahawar**

*Survey insights on the ecological and agricultural threat of Ambrosia psilostachya in Karnataka*

**Dr. M.G. Deeksha**

*Phanerogamic plant parasites: Approaches of managing parasitic weeds*

**Miss. Stuti Maurya**

*Discussion and concluding remarks by the Chair and Co-chair*

**Closing ceremony (in Main Hall)**

**Date/(time): 29/11/2024 (17:15-18:15)**

Remarks by Organizing Secretary : Dr. R.P. Dubey, Secretary, ISWS, Jabalpur

Declaration and distribution of Best Poster Awards and STGF Awards

Remarks by Convenor : Dr. J.S. Mishra, President, ISWS, Jabalpur

Remarks by Guest of Honor : Dr. Nagendra Rai, Director, ICAR-IIVR, Varanasi

Remarks by Chief Guest : Dr. Rajbir Singh, ADG (A,AF&CC), ICAR, New Delhi

Rapporteurs : Dr. P. Saravanane and Dr. C.P. Nath

Vote of Thanks : Dr. M.K. Singh, Local Organizing Secretary, Varanasi

**Tea**

**Date/(time): 29/11/2024 (18:15-18:30)**

**Dinner**

**Date/(time): 29/11/2024 (19:30-21:30)**

**Saturday, November 30, 2024**

**Field visit and Excursion**

**Date/(time): 30/11/2024 (6:00-23:00)**

**Ram Mandir Ayodhya Visit**, The Buses will depart from Main Gate, BHU at 6:00 am and return to BHU by 11:00 pm on November 30, 2024. Breakfast and dinner will be provided by the organizers during the trip.

## Poster Presentations

Day/Date		Poster numbers
Day 1:	28 <sup>th</sup> November 2024	P-01-88
Day 2:	29 <sup>th</sup> November 2024	P-89-218

Posters should be displayed in the designated area from 9.00 AM to 6.30 PM on the scheduled days only. Kindly note your poster number from the list given in the following pages.

### Guidelines for poster presentations

- 1) Please use the designed ISWS Biennial Conference poster template. Make your title short to summarize the message of the research. Keep references to a minimum
- 2) Prepare your poster to fit in dimensions of Width: 75 cm, Height: 100 cm. It is recommended that the poster be printed on one continuous sheet. The dimensions of the poster should not exceed size.
- 3) Make sure to keep a blank circular space to mention the poster number at the upper right corner of your printed poster.
- 4) Poster number has been given in the 'Technical Program' booklet.
- 5) Allocate the top of the poster for the title and authors as stated on the submitted abstract.
- 6) The text, illustrations, *etc.* should be big enough to be read from a distance of two meters. Use just one or two colours on a plain coloured background. Avoid capital letters, except at the beginning of sentences and for proper nouns. Avoid underlining; this implies it is a link to the subject. Use bolder, larger typeface for the main titles and headings. It can be effective to use a different typeface for headings and subheadings. To emphasize body text, use a bold font. Put the conclusions at the bottom of the poster before recreation. Do not use even justification of the column text if there are few words to a line. Be selective in your use of bullet points, perhaps only in the conclusion.
- 7) Materials (such as double-sided tape) will be available for mounting posters.

### **Theme 1: Climate-smart weed management and herbicide resistance and its management**

- P-1 Climate-smart weed management: Combating weeds for global and Indian agricultural resilience  
*–Kuldeep Kumar, S Karmakar and Shruti Jaiswal*
- P-2 Climate-smart weed management for global food security  
*–Savita Dewangan, Madhusudan Dewangan, Bipin Kumar Singh and Alok Kumar Singh*
- P-3 Climate-smart weed management  
*–Shivani Thakur, Kusum Sharma, Sakshi Mundra, Jagjeet Panthi and Prem Prakash Parihar*
- P-4 Climate-smart weed management  
*–Pushpa Meena and Arvind Verma*
- P-5 Climate resilient weed management strategies for sustainable agriculture  
*–Tripti Pandey*
- P-6 Weed management practices under climate change scenario – A review  
*–Rakhee Priya Baruah*
- P-7 Effect of climate-smart weed management strategies on weeds, productivity and soil organic carbon under rice-wheat cropping system in Eastern Uttar Pradesh  
*–Riju Pratap Singh and Pratik Sanodiya*
- P-8 Eco-friendly solutions: Climate-smart weed management practices  
*–Anchal Singh, Shweta Gupta, Ankur Tripathi and Devrani Gupta*
- P-9 Evolution of herbicide resistance in weeds of the rice-wheat cropping system in South Asia: challenges, implications, and management strategies  
*–Charul Chaudhary, RS Chhokar and Ratan Tiwari*
- P-10 Enhanced chemical weed management efficiency through induced herbicide resistance in crop plants  
*–P Halesha, Ram Narayan Meena, Lakey Radha, Kareti Harika and Ved Prajapati*
- P-11 Emerging challenges for weed management in herbicide-resistant crops  
*–Devasheesh Kumar and Vipul Kumar Rawal*
- P-12 Evaluation of herbicide resistance in *Phalaris minor* populations and its management in wheat  
*–Paras Kamboj, SS Punia, DB Yadav, Todarmal Poonia and Ankur Chaudhary*
- P-13 Combating herbicide resistance in agricultural weeds and crops  
*–Pawan Ahari, Rajendra Choudhary and Vishakha Sharma*

### **Theme 2: Recent approaches for integrated weed management in rice and rice-based cropping systems**

- P-14 Impact of different formulations of pendimethalin on weed control efficiency and seed production capacity of *Echinochloa colona* in dry direct-seeded rice under different soil moisture contents  
*–Pijush Kanti Mukherjee, Aman Malhotra and VK Choudhary*

- P-15 Impact of tillage system and weed management practices on weed dynamics, crop growth and yield of direct seeded upland rice under the foothill of Nagaland  
**–T Malemnganbi and AP Singh**
- P-16 Effect of soil mulch practice and herbicides on weed growth, productivity and profitability of direct seeded rice-yellow sarson cropping sequence in lateritic soil of West Bengal  
**–Ruchi Bharti, B Duary and Virender Kumar**
- P-17 Weed management in direct-seeded rice under conservation agriculture based rice-yellow sarson-green gram cropping system  
**–S Maity, B Duary, A Pradhan and M Bauri**
- P-18 Effect of herbicidal weed management on weed dynamics, crop growth yield and economics of direct-seeded rice  
**–Nagendra Kumar Verma, Shrikant Chitale, Nitish Tiwari and Manisha**
- P-19 Herbicide strategies for climate-smart weed management in direct-seeded rice under diverse agro-ecosystems  
**–Badal Verma, Manish Bhan, AK Jha, KK Agrawal and ML Kewat**
- P-20 Effect of tillage and weed management on weed dynamics and productivity of direct-seeded rice in east and south eastern coastal plain zone of Odisha  
**–S Samantaray, GC Malik, R Dash, M Banerjee and S Lenka**
- P-21 Weed management in dry direct-seeded rice grown under different tillage systems in lateritic soil of West Bengal  
**–Bonthala Madhukar, B Duary and DK Jaiswal**
- P-22 Evaluation of weed management strategies in direct-seeded rice in West Central Table Land Zone of Odisha  
**Ipsita Kar, Sanjukta Mohapatra, Rini Pal, Atanu Seni and Sarita Barla**
- P-23 Weed growth and productivity of direct-seeded rice under different tillage and weed management practices  
**–Ipsita Padhi, Koushik Sar and SK Mohanty**
- P-24 Weed dynamics and yield response of direct-seeded summer rice to chemical weed management practices under east coast plains of India  
**–Swagat Shubhadarshi, Ankita Priyadarshini, Subhprada Dash and Sankarsana Nanda**
- P-25 Comparative analysis of weed dynamics and crop productivity of direct-seeded rice under integrated weed management strategies to enhance soil health  
**–Ankita Priyadarshini, Subhprada Dash and Swagat Shubhadarshi**
- P-26 Effect of weed management and water regimes on direct-seeded rice  
**–DK Roy**
- P-27 Effectiveness of post-emergence herbicides in direct-seeded rice in Indian Sundarbans  
**–Takbir Ali, Chandan De, K Brahmachari, Rajib Kundu and Sukamal Sarkar**
- P-28 Impact of tillage system and weed management practices on weed dynamics, crop growth and yield of direct seeded upland rice under the foothill of Nagaland  
**–T Malemnganbi and AP Singh**

- P-29 Integrated weed management with new generation herbicides in direct-seeded rice to improve the yield of rice  
*–Shilpa Saini, Tej Pratap, MS Pal, SP Singh, DK Singh and AP Singh*
- P-30 Bensulfuron-methyl 60% DF: A suitable option for controlling weeds in transplanted rice  
*–Neeraj Hada, Amit Kumar, DS Sarangdevot, Nisha Singh, Janmajay Sharma and Varsha Gupta*
- P-31 Efficacy of fenoxaprop-p-ethyl 69 EC against weeds in transplanted rice  
*–Sanjeev Kumar, Prateek Kumar, Ambuj Kumar Singh and Amit Kumar Yadav*
- P-32 Weed management in transplanted rice under natural farming  
*–VSGR Naidu, M Sheshu Madhav and JVR Satyavani*
- P-33 Bio-efficacy and phytotoxicity evaluation of pre- and post-emergence application of bensulfuron-methyl 60% DF on transplanted Kharif Rice  
*–Mahua Banerjee, Manisa Sinha and GC Malik*
- P-34 Bio-efficacy and phytotoxicity of pre-emergence herbicide mixtures on weed growth and yield in transplanted rice  
*–Shrijan Kafle, MK Singh, Virendra Choudhary, Udaya Lakshmi and Anil Kumar Meena*
- P-35 Puddling intensities effect on weed dynamics and soil health in transplanted rice  
*–Souvik Bag, Sunita Meher, S Sarkar, R Shriram Kalasare and Arunabha Pal*
- P-36 Season-long weed management in upland rice through rice husk-biochar nano-carrier based 2,4-D herbicide  
*–VS Sussha and Lisha Jose Kappen*
- P-37 Comparative efficiency of different nozzles for drone based post-emergence herbicide spray in transplanted rice  
*–Ch Vijay Sree, P Spandana Bhatt, K Bhanu Rekha and T Ram Prakash*
- P-38 Assessment of tillage and weed management practices on weed control, yield and profitability in long-term rice-wheat-green gram cropping system under conservation agriculture  
*–Alpana Kumhare, VK Choudhary and DS Sasode*
- P-39 Evaluation of the efficacy of post-emergence herbicides against weed flora in rice  
*–OP Khavanekar, MS Jadhav, TN Thorat, DN Jagtap, GK Mote, SH Lohale and KS Raut*
- P-40 Sustainable weed control in rice cultivation  
*–Saurabh Raj Pandey, Ram Kumar Singh, Pawan Kumar Verma, Vineet Kumar Shukla, Ambikesh Tripathi and Sanju Choudhary*
- P-41 Weed management in rice-wheat-legume cropping system under conservation agriculture  
*–SP Singh, Tej Pratap, Vishal V Singh, Dharmendra Kumar and Shilpa Patel*
- P-42 Effect of irrigation and weed management practices on the growth, yield attributes and yield of drum-seeded rice  
*–Digvijay Singh, Ratnesh Kumar Jha, Harshita Singh and Anil Kumar Singh*
- P-43 Expansion of seasonality of *Echinochloa colona* in rice-wheat-green gram cropping system  
*–Sonali Singh, Pijush Kanti Mukherjee and Anamika Pandey*



- P-44 Weed dynamics and weed management under different crop establishment methods in rice  
*–Richa Chaudhary, Nikhil Kumar Singh and Abhishek Malav*
- P-45 Growth and yield of aerobic rice as influenced by weed management practices  
*–DK Patel and KP Patel*
- P-46 Weed management in organically grown aromatic rice-tomato cropping system  
*–Manisha, Nitish Tiwari and Nagendra Kumar Verma*

### Theme 3: Current trends in integrated weed management in pulses and oilseeds

- P-47 Consequence of post-emergence herbicides on productivity of clusterbean  
*–Ram Niwas Choudhary, Shweta Gupta, Seema Sharma, Bheem Pareek, Pratibha Singh, Anju Kanwar Khangarot and Kavita Bhadu*
- P-48 Bio-efficacy of new generation herbicides on productivity of summer cowpea  
*–G Prameela, Suchismitha Tripathy and Rabiratna Dash*
- P-49 Management of weeds in pulses: A review  
*–SB Singh, SK Verma and Amit Kumar Singh*
- P-50 Weed control efficiency and phytotoxicity of certain post-emergence herbicides in chickpea  
*–D Subramanyam, S Pratibha Sree and P Amara Jyothi*
- P-51 Integrated weed management in chickpea: strategies for sustainable crop production  
*–Sharda Sharan, Chandra Bhushan, Ambikesh Tripathi, Brijesh Kumar and Prajwal Agnihotri*
- P-52 Weed management of chickpea with IDM in Chhattisgarh  
*–BP Tripathi, NK Mishra and BS Parihar*
- P-53 Influence of various chickpea based intercropping systems under different organic modules on weed management  
*–N Charitha, Rathod Sridhar, A Sai Kishore, L Shrivika, AN Paslawar & VV Goud*
- P-54 Efficacy, energy budgeting and carbon footprints of herbicidal weed management in chickpea  
*–Anamika Nepali and JK Singh*
- P-55 Effect of weed management practices on weed dynamics and growth and yield of chickpea  
*–Pradeep Kumar, VP Usadadiya, HM Virdia, Gharsiram and Y Nefla*
- P-56 Climate-resilient weed management through mulching for enhanced chickpea yield and soil health under dryland conditions  
*–Kareti Harika, Sudhir Kumar Rajpoot, SK Prasad, P Halesha, Udaya Lakshmi and Lakey Radha*
- P-57 Effect of weed management practices on weed intensity, growth and yield of chickpea  
*–Prashant P Pawar, SC Wadike, PD Sonawane and JV Kathepuri*
- P-58 Weed dynamics as influenced by date of sowing and varieties in chickpea  
*–Abhjeet Dubey and Anay Rawat*
- P-59 Response of greengram to assess the effects of elevated CO<sub>2</sub> and nitrogen levels on available nutrient in soil  
*–Sunil Kumar Upadhyay, SK Singh, Amita Sharma, Devid Kumar Sahu and Monika Raghuwanshi*

- P-60 Enhance the weed control efficiency and yield of greengram through appropriate herbicides  
*–RK Singh, Veenapani Srivastav and Kamlesh Ahirwar*
- P-61 Tillage and weed management practices in mustard under conservation agriculture based direct seeded rice – mustard – greengram cropping system  
*–Koushik Sar*
- P-62 Effect of various herbicides on nutrient content and uptake by weed and gram grown under south Gujarat condition  
*–VM Patel, LB Kalasariya, JV Patel and BK Patel*
- P-63 Effect of non-chemical weed management practices in blackgram  
*–G Pavithra and A Velayutham*
- P-64 Evaluation of post-emergence herbicides in urdbean  
*–Versha Gupta, Khajan Singh, SL Yadav, RS Narolia and Rajesh Kumar*
- P-65 Integrated weed management in blackgram  
*–HH Patel, VM Kapadiya, TU Patel and DD Patel*
- P-66 Weed management in summer blackgram  
*–Amit Nain, Karishma Singh and Joy Dawson*
- P-67 Sustainable weed management in pulses  
*–Kanhaiya Singh and Jainendra Kumar Singh*
- P-68 Efficacy of herbicides on the productivity of groundnut  
*–Bheem Pareek, MR Yadav, Shweta Gupta, RN Choudhary, Seema Sharma, Kavita Bhadu and NK Pareek*
- P-69 Bio-efficacy of sethoxydim and non-ionic surfactant as post-emergence herbicide against grassy weeds in groundnut  
*–N Ananda, BK Desai, AG Sreenivas, MR Umesh, Rajanna, SN Bhat and Vineetha*
- P-70 Weed management in groundnut with diclosulam at Puducherry region  
*–S Ravi, R Narasimman and N Vijayakumar*
- P-71 Productivity and weed dynamics under integrated weed management in groundnut  
*–Prerna Hinge, VV Goud and AP Karunakar*
- P-72 Smart nano-herbicide formulations for weed management in the rainfed groundnut  
*–CR Chinnamuthu and K Srimathi*
- P-73 Weed dynamics, productivity and profitability of groundnut as affected by weed management practices and fertility levels  
*–Swapnashree Sahoo and Jainendra Kumar Singh*
- P-74 Weed management in summer groundnut  
*–Niteen Danawale, Nayan Jopale and Rushikesh Pawar*
- P-75 Integrated weed management in Kharif groundnut under different crop geometry  
*–PP Chaudhary and GS Damor*
- P-76 Synergistic effects of integrated nutrient and weed management on soybean growth and system productivity  
*–Rathod Sridhar, LT Longkumer, AP Singh, N Charitha and G Zion*
- P-77 Weed dynamics and production potential of soybean as influenced by different land configuration and weed control  
*–Shyamli Kawanpure, Sunita Pawar and Priyanka Motinge*

- P-78 Effect of plant extracts, straw mulch and herbicides on growth and yield of summer soybean  
*–MR Kadir, BS Gohil and Abhishek Inaniya*
- P-79 Response of soybean crop, C<sub>3</sub> and C<sub>4</sub> weeds as influenced by elevated temperature  
*–KN Geetha, BS Vidyashree, Shobha Sondhia, M Prabhakar, HR Laxman, S Kamala Bai and JK Sinchana*
- P-80 Effects of herbicides on weeds of soybean crops  
*–Ariunaa Ochir, Bayarsukh Noov and Otgonsuren Majaa*
- P-81 Effect of mulching and herbicides on weed growth, productivity and profitability of lentil  
*–B Duary, DK Mohanta, M Bauri and A Pradhan*
- P-82 Growth, yield and economic of lentil as influenced by integrated weed management  
*–JR Patel, Ghanshyam, HP Agrawal, Chanchala Rani Patel and Nagendra Kumar Varma*
- P-83 Effect of integrated weed management on weed dynamics, crop growth, economics and yield of linseed  
*–HP Agrawal, Chandrashekhar Patel, JR Patel, Chanchala Rani Patel and Nagendra Kumar Varma*
- P-84 Effect of nano fertilizer and weed management practices on productivity of lentil  
*–Suman Dhayal and MK Kaushik*
- P-85 Response of Rabi castor to integrated weed management practices  
*–BK Patel, VM Patel, JV Patel, DA Chauhan and RB Ardeshta*
- P-86 Estimation of water use by diverse category of weeds and seed yield of summer sesame under varying irrigation and weed regimes  
*–Divya Jaiswal, BK Saren, B Duary and DK Jaiswal*
- P-87 Bio-efficacy of herbicides on weeds, growth and productivity of safflower  
*–Ayush Singh*
- P-88 Evaluation of pre- and post-emergence herbicide for chemical weed management in sesame under assured rainfall zone of North Maharashtra  
*–BD Malunekar, NM Magar, GB Chaudhari, SS Patil and SS Chitodkar*

#### Theme 4: Digital technologies and extension strategies in weed management

- P-89 Real-time weed detection and classification in cotton using YOLO11: A machine vision approach for precision weed management  
*–Aditya Kanade, Milind Potdar, BN Aravinda Kumar and Gurupada Balol*
- P-90 DWR Weedseed GURU android application for weed seed identification  
*–Sandeep Dhagat, D Sreekanth, DV Pawar, PK Singh and JS Mishra*
- P-91 Weed control by drone and sensor technology in sustainable agriculture  
*–Shital Suman, Swati Sagar, Rajesh Reddy and Reeta Singh*
- P-92 Artificial intelligence tools for precision weed management  
*–Abhishek Malav, Richa Chaudhary and Nikhil Kumar Singh*
- P-93 New emerging digital technologies in weed management  
*–Shivendra Singh and Naushad Khan*
- P-94 Assessment of farmers' knowledge and practices on herbicide application and weed management in the irrigated North Western Plain Zone of Rajasthan  
*–Gajanand, Sunil Kumar, Sunil Kumar and Devail Birla*

- P-95 Efficacy evaluation of herbicides using drones for effective weed control, crop yield, profitability and resource savings in direct-seeded rice  
**–R Arockia Infant Paul, P Murali Arthanari, Pannerselvam Peramaiyan, Virender Kumar and Muthukumar Bagavathiannan**
- P-96 Crop weather simulation modeling in weed management  
**–Neeraj Kumar, BM Mote, TU Patel, HH Patel and DD Patel**
- P-97 Leverage of digital technologies to evaluate the spread of *Parthenium* in Puducherry  
**–P Saravanane, A Karthickraja, R Poonguzhalan and R Mohan**
- P-98 Digital mapping of *Parthenium hysterophorus* using geo-spatial techniques for crop lands of Amravati district of Maharashtra  
**–Surabhi Hota, Gopal Tiwari, VK Choudhary, NC Paul, Yogita Gharde and VV Goud**
- P-99 Advancements in precision agriculture: Utilizing unmanned aerial vehicles and multispectral sensors for enhanced weed management  
**–Shiv Bhushan Verma and Divya Singh**

**Theme 5: New directions for integrated weed management in wheat, maize and cotton**

- P-100 Efficacy of pre-emergence, early post-emergence and post-emergence herbicides for weed management and yield attributes in wheat  
**–Priya Garhewal, Anupma Kumari and Devendra Singh**
- P-101 Effect of *Phalaris minor* Retz emergence timing and density on its economic threshold level in wheat  
**–Pawan Kumar Verma, Makhan Singh Bhullar, Manpreet Singh and Tarundeep Kaur**
- P-102 Weed management in wheat sown with super seeder  
**–MP Singh, SK Tomar, PK Singh, LB Gaur and RR Singh**
- P-103 Effect of tillage and herbicides on weeds and productivity of wheat in Northern part of Madhya Pradesh  
**–Pavan Kumar Para, Shailendra Singh Kushwah and RK Tiwari**
- P-104 Effect of different sowing environments and IW/CPE based irrigation scheduling on weeds under wheat crop  
**–Mrinali Gajbhiye, Manish Bhan, KK Agrawal and Narendra Kumar**
- P-105 Assessment of conservation tillage practices vis-à-vis herbicide treatments on wheat growth: a spectral and chlorophyll content analysis  
**–Monika Raghuwanshi, Namrata Jain, VK Choudhary and AK Jha**
- P-106 Efficacy of post-emergent herbicides used in wheat against *Polypogon monspeliensis* (L.) Desf  
**–Manpreet Singh and MS Bhullar**
- P-107 Evaluation of efficacy of premix bixlozone 50%WG + metribuzin 10% WG for weed management in wheat  
**–SP Singh, Pranjal Sharma, Kanchan Taragi, Vishal Vikram Singh, Dharmendra Kumar and Manoj Kumar Bhatt**

- P-108 Weeds, yield, and economics of wheat are affected by herbicides in Eastern Uttar Pradesh  
*–Ramesh Kumar Dhaka, SK Verma, Abhishek Patidar, Sudhir Kumar Rajpoot, Chandra Bhushan, Neelkamal Mishra, Aishwarya, Amit Yadav, Pawan Kumar Bansal and Vineet Shukla*
- P-109 Weed infestation in wheat in relation to different rice straw management practices in Punjab  
*–Vivek Kumar and Karamjit Sharma*
- P-110 Beyond the rows with strip-intercropping as a game-changer for weed control in wheat  
*–Mrinal Sen, Raj Singh, Jainendra Kumar Singh, Anchal Dass, Subhash Babu, Teekam Singh and Ankur Singh*
- P-111 To check the efficacy of clodinafop-propargyl 15% SC along with carfentrazone-ethyl 40% SC against different weed flora in wheat of Mahrajganj, Uttar Pradesh  
*–Shiv Poojan Yadav, DP Singh and Vijay Chandra*
- P-112 Evaluation of new generation herbicide (Lumax) on weed control index, growth and grain yield of hybrid maize  
*–S Anbarasan, S Ramesh and P Saravanane*
- P-113 Herbicide based weed management for weed control in maize  
*–B Sinare, SV Yadav, RP Andhale and BT Shete*
- P-114 Biology of *Cyperus esculentus* L. and its management using novel herbicides  
*–Tarun Sharma, TK Das, D Vijay, Rishi Raj, Prabhu Govindasamy and CT Manjunath Prasad*
- P-115 Integrated weed management approach: Combining new-generation herbicides (HPPD-Inhibitor) with Sesbania brown manuring in conservation agriculture for maize-based cropping systems  
*–Sougata Roy, Kapila Shekhawat and SS Rathore*
- P-116 Effect of brown manuring and crop establishment methods on weed dynamics in maize  
*–Sanju Choudhary, Sudhir Kumar Rajpoot, Ambikesh Tripathi and Saurabh Raj Pandey*
- P-117 Effect of new molecule mesotrione on weeds and seed yield of fodder maize  
*–AK Jha, Gaini Sairam and Pushpendra Yadav*
- P-118 Weed dynamics and yield of maize-mustard-green gram cropping system under tillage and weed management practices  
*–Todar Mal Poonia, Ankur Chaudhary, Kautilya Chaudhary and Ajay Kumar*
- P-119 Effect of herbicides on growth and yield of maize  
*–Himanshu Kuldeep and Arvind Verma*
- P-120 Effect of herbicides on weeds, seed yield and soil-microbiome of Rabi fodder maize in Eastern plain zone  
*–Abhishek Singh, Pratik Sanodiya and Aishwarya*
- P-121 Integrated weed management: The best approach for controlling weeds and achieving highest yield of maize  
*–Rishika Hada and Niharika Shekhawat*

- P-122 Weed management in fodder maize  
**–HK Patel, PH Rathod and NS Litoriya**
- P-123 Effect of pre- and post-emergence herbicide on weeds, productivity and economics of *Kharif* Maize in eastern plain zone of Uttar Pradesh  
**–Pawan Kumar, Pratik Sanodiya, Riju Pratap Singh and Neelkamal Mishra**
- P-124 Effect of novel herbicides on weeds and productivity of *Rabi* fodder maize in Varanasi  
**–Abhishek Singh, Pratik Sanodiya and Aishwarya**
- P-125 Effect of different doses of pre-and post-emergence herbicides on weeds, productivity, soil microbiome and economics of *Kharif* hybrid maize in Varanasi  
**–Neelkamal Mishra, Pratik Sanodiya and Abhishek Patidar**
- P-126 Plant growth promoters and herbicides on the performance of *Kharif* hybrid maize  
**–Shravan Kumar Maurya, VK Verma, Dinesh Sah, Shikhar Verma and Devrani Gupta**
- P-127 Efficacy of fertigation levels and weed management practices on weed flora and yield of maize  
**–Pooja P Mane, JP Deshmukh, AA Patil, VV Goud and GV Mitkar**
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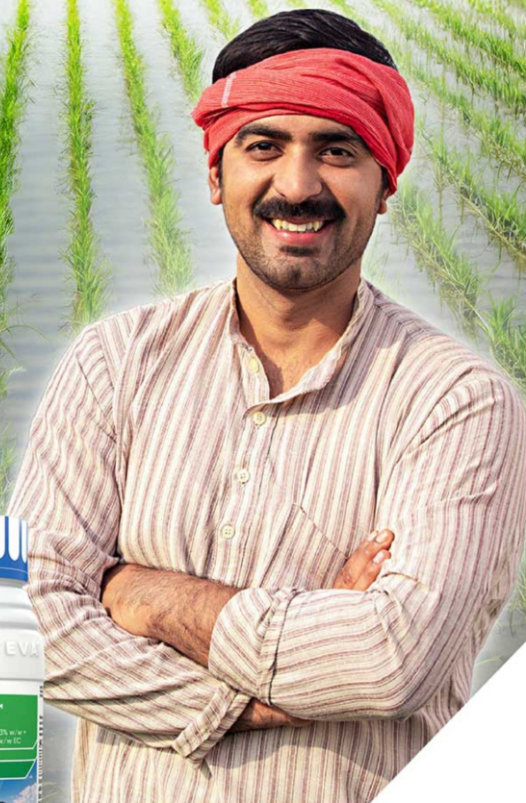
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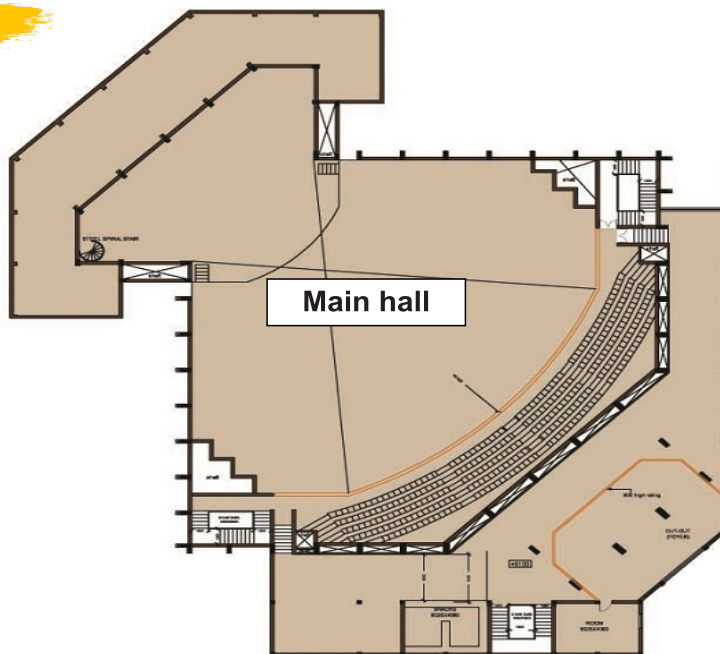
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