

# Programme

## ISWS Biennial Conference 2020

*“Weed Management for Enhancing Farmers income and Food Security”*  
 5-7 February, 2020, Goa, India

**Registration: Venue** – Reception, ICAR-CCARI, Goa  
 Tuesday, February 4, 2020; Time: 15:00-19:00  
 Wednesday, February 5, 2020; Time: 8:00-9:00

**Wednesday, February 5, 2020**

**Venue: Main Hall**

9:00-11:00	<b>Inaugural session</b> Welcome address : <b>Dr Eaknath B Chakurkar</b> , Director ICAR-CCARI, Goa Presidential address : <b>Dr Sushil Kumar</b> , President, ISWS Address : <b>Dr PK Singh</b> , Director, ICAR-DWR, Jabalpur ISWS Award announcement : <b>Dr Shobha Sondhia</b> , Secretary ISWS Address : <b>Chief Guests</b> Vote of thanks : <b>Dr Shobha Sondhia</b> , Secretary, ISWS
11:00-11:30	<b>High Tea and Poster Sessions</b>
11:31-13:10	Chair: <b>Dr SVR Shetty</b> Rapporteur: <b>Dr Malay K Bhowmick</b>  <b>Dr Prasant C Bhowmik</b> <span style="background-color: #FFD700;">Keynote Lecture</span> <i>Weed management in sustainable agriculture: Farm economy and food security</i> <b>Dr NT Yaduraju</b> <span style="background-color: #FF8C00;">Plenary</span> <i>Weed management in the digital era</i> <b>Dr Stéphane Cordeau</b> <span style="background-color: #FF8C00;">Plenary</span> <i>Weed diversity mitigates crop yield losses: a perspective from European grain-based systems and insights for biodiversity-based weed management</i>  Discussion and concluding remarks by Chair
13:11- 14:00	<b>Lunch/Posters</b> <span style="float: right;"><b>Date: 05/02/2020</b></span>
<b>TECHNICAL SESSIONS (Concurrent Sessions in MH, Hall 1 and 2)</b>	
<b>Venue: Main Hall</b> <span style="float: right;"><b>Date: 05/02/2020</b></span>	
14:00 -17:00	<b>TECHNICAL SESSION 1: Weed management in rice-based cropping system</b>  Chair: <b>Dr Megh Singh</b> Rapporteur: <b>Dr Pijush Kanti Mukherjee</b>  <i>Crop residue management in rice-wheat rotation: Challenges, opportunities and strategies</i> <b>Dr ML Jat</b> <span style="background-color: #8B0000; color: white;">Lead</span>  <i>Conservation Agriculture for weed management and reducing costs in the intensified rice-wheat system</i> <b>Dr V Pratap Singh</b> <span style="background-color: #4682B4; color: white;">Invited Paper</span>  <i>Long-term impacts of green manuring, herbicide rotation and planting methods on weed flora and their management in rice-wheat cropping system</i> <b>Dr Dharambir Yadav</b> <span style="background-color: #4682B4; color: white;">Invited Paper</span>  <i>Weed management in rice – wheat system: challenges and opportunities</i> <b>Dr UP Singh</b> <span style="background-color: #90EE90;">Oral</span>  <i>System Based Herbicidal weed management on Weed Flora and their control and Soil Properties of transplanted Lowland Rice-Rice Cropping System</i> <b>Dr P Murali Arthanari</b> <span style="background-color: #90EE90;">Oral</span>  <i>Evaluation of critical period for weeding and yield loss in direct seeded boro rice by weeds in shallow lowland of Asom</i> <b>Dr Teekam Singh</b> <span style="background-color: #90EE90;">Oral</span>  <i>Integrated management of Sacciolepis interrupta, a weed menace in rice</i> <b>Dr K Sreelakshmi</b> <span style="background-color: #90EE90;">Oral</span>

15:30- 15:40	<p><b>Tea break</b></p> <p><i>Effectualness of Herbicides in controlling weeds under Aerobic Summer rice</i>  <b>Dr Satyananda Jena</b> Oral</p> <p><i>Comparative Evaluation of ALS inhibitors and 2,4-D on stress and productivity indices of rice</i>  <b>Dr T Girija</b> Oral</p> <p><i>Integrated weed management in unpuddled transplanted hybrid rice</i>  <b>Dr Manoj Kumar Singh</b> Oral</p> <p><i>Weed dynamics and management options under different rice establishment methods during Kharif</i>  <b>Dr Malay K Bhowmick</b> Oral</p> <p><i>Bio-efficacy of bispyribac sodium 95%+ penoxsulam 78% SC w/v against weeds in transplanted rice and their residual effect on garden pea</i>  <b>Dr JK Singh</b> Oral</p> <p><i>Performance of different pre and post emergence herbicides in transplanted rice</i>  <b>Dr R Poddar</b> Oral</p> <p><i>Weed management in transplanted rice with special reference to Commelina benghalensis L in Central India</i>  <b>Dr Pramod Kumar Gupta</b> Oral</p> <p><i>Evaluation of post-emergence herbicides in rice fallow blackgram</i>  <b>Dr K Srinivasulu</b> Oral</p> <p>Discussion and concluding remarks by Chair</p>
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**Venue: Hall 1** **Date: 05/02/2020**

14:00 -17:00	<p><b>TECHNICAL SESSION 2: Sustainable weed management in cereals, pulses, oil seed crops, commercial crops, fibre and fodder crops under irrigated and rain-fed agriculture (Part I)</b></p> <p>Chair: <b>Dr AS Rao</b></p> <p>Rapporteur: <b>Dr BS Gohil</b></p> <p><i>Inheritance of resistance against alternate herbicides in various biotypes of Phalaris minor from different parts of Haryana</i>  <b>Dr SS Punia</b> Lead</p> <p><i>Weed management in sustainable sugarcane production in sub-tropical India</i>  <b>Dr VP Singh</b> Invited Paper</p> <p><i>Nano-encapsulated slow release herbicide formulations for season long weed control in rainfed and irrigated ecosystem</i>  <b>Dr CR Chinnamuthu</b> Invited Paper</p> <p><i>Standardization of weed management practices in transplanted scented rice in lower gangetic alluvial zone of West Bengal</i>  <b>Dr Bikas Mandal</b> Oral</p> <p><i>Assessment of performance of maize+ runner bean intercropping under planting pattern and weed management</i>  <b>Dr B Behera</b> Oral</p> <p><i>Enhancing productivity and profitability through herbicidal weed management in maize-wheat cropping system</i>  <b>Dr DD Chaudhari</b> Oral</p> <p><b>Tea break</b></p> <p><i>Effect of nutrient and weed management practices on weed growth and crop productivity in sweet corn</i>  <b>Dr Dibakar Ghosh</b> Oral</p> <p><i>Influence of brown manuring on weeds and growth attributes of irrigated maize</i>  <b>Dr A Ramachandran</b> Oral</p> <p><i>An endeavour towards doubling jute farmers' income through mechanical weed management in North 24 Parganas of West Bengal</i>  <b>Dr SK Jha</b> Oral</p> <p><i>Weed management in chickpea</i>  <b>Dr Sheela Barla</b> Oral</p> <p><i>Bio-efficacy of various herbicides on weeds and yield of Indian mustard under subtropical agro-ecosystems of Jammu region</i>  <b>Dr Rajeev Bharat</b> Oral</p> <p><i>Effect of post-emergence herbicides on cuscuta infestation in jute (Corchorus olitorius) and mesta ( Hibiscus cannabinus)</i>  <b>Dr Mukesh Kumar</b> Oral</p> <p><i>Influence of tillage, weed and nutrient management practices on crop-weed competition for nutrients in green manure – maize – pulse based conservation agriculture system</i></p>
15:30- 15:40	

	<p>Dr R Thirumalaikumar <span style="background-color: green; color: white; padding: 2px;">Oral</span></p> <p><i>Weed management practices effect on weed dynamics, growth and yield of different rice varieties under aerobic rice system</i></p> <p>Mr Sagar Dhage S <span style="background-color: green; color: white; padding: 2px;">Oral</span></p> <p>Discussion and concluding remarks by Chair</p>
<b>Venue: Hall 2</b>	<b>Date: 05/02/2020</b>
<p>14:00 -17:00</p> <p>15:30- 15:40</p>	<p><b>TECHNICAL SESSION 3: Sustainable weed management in cereals, pulses, oil seed crops, commercial crops, fibre and fodder crops under irrigated and rain-fed agriculture (Part 2)</b></p> <p>Chair: <b>Dr RM Kathiresan</b></p> <p>Rapporteur: <b>Dr Simerjeet Kaur</b></p> <p><i>Weed management in pulse crops</i>  <b>Dr Guriqbal Singh</b> <span style="background-color: red; color: white; padding: 2px;">Lead</span></p> <p><i>Effect of mesosulfuron-methyl against mix weed flora and it's persistence in wheat grain and straw</i>  <b>Dr ML Kewat</b> <span style="background-color: blue; color: white; padding: 2px;">Invited Paper</span></p> <p><i>Weed management in pulses grown as relay crop in Andhra Pradesh</i>  <b>Dr AS Rao</b> <span style="background-color: green; color: white; padding: 2px;">Oral</span></p> <p><i>Comparison of new premix of mesotrione and atrazine with other herbicides for weed control in winter maize</i>  <b>Dr Ramesh K Singh</b> <span style="background-color: green; color: white; padding: 2px;">Oral</span></p> <p><i>Site specific weed management or precision weed management for sustainable weed management</i>  <b>Dr RK Singh</b> <span style="background-color: green; color: white; padding: 2px;">Oral</span></p> <p><i>Comparative efficacy of herbicides for weed management in soybean</i>  <b>Dr BD Patel</b> <span style="background-color: green; color: white; padding: 2px;">Oral</span></p> <p><i>Control of mixed weed flora in rainfed lowland rice with new post-emergence herbicides</i>  <b>Dr D Subramanyam</b> <span style="background-color: green; color: white; padding: 2px;">Oral</span></p> <p><b>Tea break</b></p> <p><i>Effect of pre-mixed herbicide RIL-066/F1 (48%EC) in controlling complex weed flora in wheat</i>  <b>Dr Tej Pratap</b> <span style="background-color: green; color: white; padding: 2px;">Oral</span></p> <p><i>Weed management in maize with new herbicide molecules for higher productivity</i>  <b>Dr MT Sanjay</b> <span style="background-color: green; color: white; padding: 2px;">Oral</span></p> <p><i>Effect of herbicides and tillage on weed flora in wheat under new alluvial zone of West Bengal</i>  <b>Dr Dhiman Mukherjee</b> <span style="background-color: green; color: white; padding: 2px;">Oral</span></p> <p><i>ParadigmTM- A new post emergence broad-leaf herbicide for wheat Growers in India</i>  <b>Dr Vinod Singh Mehra</b> <span style="background-color: green; color: white; padding: 2px;">Oral</span></p> <p><i>Management of Broomrape (Orobancha sp) in tobacco through innovative integrated management strategies</i>  <b>Dr T Kiran Kumar</b> <span style="background-color: green; color: white; padding: 2px;">Oral</span></p> <p><i>Impact of different weed management practices on growth and fibre yield of mesta</i>  <b>Dr M Raju</b> <span style="background-color: green; color: white; padding: 2px;">Oral</span></p> <p><i>Evaluation of herbicide application techniques for low-dose-high-potency herbicide molecules in maize crop</i>  <b>Dr CR Chethan</b> <span style="background-color: green; color: white; padding: 2px;">Oral</span></p> <p><i>Yield attributes, yield and economics of black gram (Vigna mungo L) under different weed management practices</i>  <b>Mr. Kartik Sharma</b> <span style="background-color: green; color: white; padding: 2px;">Oral</span></p> <p><i>Response of weeds and potato to various weed management tactics</i>  <b>Miss Bishnupriya Patra</b> <span style="background-color: green; color: white; padding: 2px;">Oral</span></p> <p>Discussion and concluding remarks by Chair</p>
17:00-17:15	<b>POSTERS/Tea</b>
17:16 -18:15	<b>General Body Meeting of ISWS</b> <span style="float: right;"><b>Date: 05/02/2020</b></span>
18:16-22:00	<b>Gala Dinner on Cruise</b> <span style="float: right;"><b>Date: 05/02/2020</b></span>

## Thursday, February 6, 2020

<b>Venue: Main Hall</b>		<b>Date: 06/02/2020</b>
9:30-10:30	<p>Chair: <b>Dr LS Brar</b></p> <p>Rapporteur: <b>Dr Prameet Singh</b></p> <p><b>Dr AN Rao</b> <span style="color: orange;">Plenary</span>  <i>Recent trends in global weed management research and their relevance to Indian context</i></p> <p><b>Dr Megh Singh</b> <span style="color: orange;">Plenary</span>  <i>Past, present, and future of weed management for optimum crop production and food security</i></p>	
10:31-11:00 <b>POSTERS/Tea</b>		
<b>Venue: Main Hall</b>		<b>Date: 06/02/2020</b>
11:01-13:00	<p><b>TECHNICAL SESSION 4: <i>Herbicide use in India: Safety regulations and policies</i></b></p> <p>Chair: <b>Dr NT Yaduraju</b></p> <p>Rapporteurs: <b>Dr Manoj Kumar Singh</b></p> <p><i>Environmental impact of glyphosate</i>  <b>Dr CT Abraham</b> <span style="color: red;">Lead</span></p> <p><b>Dr PJ Suresh</b></p> <p><b>Dr Ajit Kumar</b></p> <p>Discussion and concluding remarks by Chair</p>	
<b>Venue: Hall 1</b>		<b>Date: 06/02/2020</b>
11:01-13:00	<p><b>TECHNICAL SESSION 5: <i>Weed education, extension, socio-economic implications, adoption, and impact assessment</i></b></p> <p>Chair: <b>Dr GR Rao</b></p> <p>Rapporteurs: <b>Dr Parvender Sheoran</b></p> <p><i>ICT-based decision tool for weed management</i>  <b>Dr Virender Kumar</b> <span style="color: red;">Lead</span></p> <p><i>How should students remain involved in weed research</i>  <b>Dr Srikanth Rupavatharam</b> <span style="color: red;">Lead</span></p> <p><i>Phalaris minor infestation in wheat crop sown after different paddy straw management technologies at farmers field</i>  <b>Dr GS Buttar</b> <span style="color: green;">Oral</span></p> <p><i>Building collaborative community actions to manage established weeds and prevent the introduction of new weeds</i>  <b>Dr Parmeet Singh</b> <span style="color: green;">Oral</span></p> <p><i>Assessment of functional form of yield loss models for pulse crops</i>  <b>Dr Yogita Gharde</b> <span style="color: green;">Oral</span></p> <p><i>Quantification of yield losses due to dominant weed species in direct seeded Rice in chhattisgarh plains</i>  <b>Miss Banashri Lodh</b> <span style="color: green;">Oral</span></p> <p><i>Weed management in agriculture using IOT frameworks</i>  <b>Mr G Surendra</b> <span style="color: green;">Oral</span></p> <p>Discussion and concluding remarks by Chair</p>	
<b>Venue: Hall 2</b>		<b>Date: 06/02/2020</b>
11:01-13:00	<p><b>TECHNICAL SESSION 6: <i>Weed biology, ecology and climate change</i></b></p> <p>Chair: <b>Dr A Ramesh</b></p> <p>Rapporteur: <b>Dr Bikas Mandal</b></p> <p><i>Invasive Weeds : An Eco-biological challenge for weed management under changing climate</i>  <b>Dr C Chinnusamy</b> <span style="color: red;">Lead</span></p> <p><i>Threshold density of certain weeds in transplanted rice</i>  <b>Dr IC Barua</b> <span style="color: green;">Oral</span></p> <p><i>Endozoochory dissemination of weed and its impact on wheat productivity</i></p>	

	<p><b>Dr Pijush Kanti Mukherjee</b> Oral</p> <p><i>Climate resilience weed management in Kharif rice in Konkan region</i></p> <p><b>Dr PS Bodake</b> Oral</p> <p><i>DAMBU (Phragmites australis): A serious ecological threat for ladakh region in a changing climate</i></p> <p><b>Dr MS Raghuvanshi</b> Oral</p> <p><i>Effect of elevated CO<sub>2</sub> and temperature on soybean and associated weed species</i></p> <p><b>Dr Subhash Chander</b> Oral</p> <p>Discussion and concluding remarks by Chair</p>
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13:01- 14:00	<b>Lunch/Posters</b>
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**TEC HNICAL SESSIONS (Concurrent Sessions in MH, Hall 1 and 2)**

<b>Venue: Main Hall</b>	<b>Date: 06/02/2020</b>
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14:01 -16:30	<p><b>TECHNICAL SESSION 7: Weed management in fruits, vegetable, medicinal, spices, floriculture horticultural crops and problematic weeds</b></p> <p>Chair: <b>Dr Govindra Singh</b></p> <p>Rapporteur: <b>Dr Avanish Prakash Singh</b></p> <p><i>Quarantined weeds and their management in India</i>  <b>Dr N. Satyanarayana</b> Lead</p> <p><i>Aquatic weed problems and their sustainable management</i>  <b>Dr RM Kathiresan</b> Lead</p> <p><i>Integrated weed management in elephant foot yam at various agro-climatic conditions of India</i>  <b>Dr J Suresh Kumar</b> Oral</p> <p><i>Chemical weed management in vegetable pea</i>  <b>Dr BR Bazaya</b> Oral</p> <p><i>Integrated weed management in autumn potato</i>  <b>Dr Simerjeet Kaur</b> Oral</p> <p><i>Efficacy of herbicides on weed flora, yield and weed index in ginger (zingiber officinale roscoe)</i>  <b>Dr KN Geetha</b> Oral</p> <p><i>Herbicidal control of purple nutsedge</i>  <b>Dr BS Gohil</b> Oral</p> <p><i>Application of sensor technologies for precision weed management</i>  <b>Miss Puspa Parameswari</b> Oral</p> <p><i>Major weeds and pesticide use in vegetable crops in Jammu</i>  <b>Miss Stanzin Yangsdon</b> Oral</p> <p><i>Aquatic weed control for water resources project management in Maharashtra</i>  <b>Mr KS Rathod</b> Oral</p> <p><i>Weed dynamics and productivity of rainfed organic maize + vegetables intercropping and impact on soil quality</i>  <b>Miss Stuti Debapriya Behera</b> Oral</p> <p>Discussion and concluding remarks by Chair</p>
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<b>Venue: Hall 1</b>	<b>Date: 06/02/2020</b>
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14:01 -16:30	<p><b>TECHNICAL SESSION 8: Non-chemical weed management including biological control and Weed utilization</b></p> <p>Chair: <b>Dr AN Rao</b></p> <p>Rapporteur: <b>Dr MT Sanjay</b></p> <p><b>(Mahesh K. Upadhyaya Lecture Award)</b></p> <p><i>Non-chemical management of weeds through bioherbicides - Current status, market and future prospects</i>  <b>Dr KR Aneja</b> Lead</p> <p><i>Expediency of botanical herbicides in organic green farming for sustainable productivity of agricultural crops in alluvial soils of India</i>  <b>Dr RK Ghosh</b> Lead</p>
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*Preventing exotic weeds through plant quarantine*

**Dr Mool Chand Singh** Lead

*Weeds as a bioenergy feedstock for pyrolytic valorization to biofuel and biomaterials*

**Dr Rupam Katak** Invited Paper

*Utilization of weeds in Jharkhand*

**Dr RR Upasani** Oral

*Non-chemical weed management in rice-wheat cropping system*

**Dr SP Singh** Oral

*Parthenium weed biocontrol in India: Smicronyx lutulentus to complement Zygodontia bicolorata*

**Dr Prakya Sreerama Kumar** Oral

*Newspaper mulch for weed management in cotton*

**Dr D Blaise** Oral

*Status of invasive weeds management by mycoherbicide: Indian perspective*

**Dr Ajay Kumar Singh** Oral

*Evaluation of Manipur rice germplasm for higher weed competitiveness under upland rice ecosystem*

**Dr KS Shashidhar** Oral

*Production and profitability of rice-sweet corn cropping system as influenced by organic weed management practices*

**Dr Manukonda Srinivas** Oral

*Non-chemical weed management in aerobic rice*

**Mr Sourabh Munnoli** Oral

Discussion and concluding remarks by Chair

**Venue: Hall 2**

**Date: 06/02/2020**

14:01 -16:30

**TECHNICAL SESSION 9: *Herbicide residues and herbicide resistance in weeds and herbicide tolerant crops***

Chair: **Dr RP Singh**

Rapporteurs: **Dr CR Chethan**

*Challenges in herbicide detection at trace levels – Applications of Isotopic Internal standards in enhancing the accuracy of determination of residues by LC-MS-MS analysis*

**Dr A Ramesh** Lead

*Emergence of resistance in Phalaris minor to the prevalent wheat herbicides in India: Challenges and Interventions*

**Dr Makhan Singh Bhullar** Invited Paper

*Dry-direct seeded rice and zero-tillage wheat –two most potential resource conservation technologies in rice-wheat cropping system for crop residue management, mitigating global warming and enabling sustainable intensification in India*

**Dr Ashok Yadav** Invited Paper

*Recent advances in mitigation methods for herbicide residues in the soil*

**Dr Neelam Sharma** Invited Paper

*Method optimization for trace-level analysis of 147 crop protectants in Black pepper by LC-MS/MS*

**Dr Tirthankar Banerjee** Oral

*Bioassay guided extraction of potential bioactive compounds from Rhynchosia minima and utilization in plant disease management*

**Dr Neeraj Patanjali** Oral

*Effect of diuron 80 wp upon bio-efficacy against weeds and phytotoxicity on maize-wheat crops in crop sequence*

**Dr RR Hasure** Oral

*Residue concentration, persistence and dissipation of fomesafen in soybean crop and soil*

**Dr Jitendra Patidar** Oral

*Inheritance of resistance against alternate herbicides in various biotypes of Phalaris minor from different parts of Haryana during 2018-19 (Pot studies)*

**Mr Paras Kamboj** Oral

*Effect of different herbicides and their dosage on control level of resistance biotypes of P minor*

**Mr Jeetendra Kumar Soni** Oral

*Herbicide resistance in broadleaf weeds in India and its management*

**Mr Sachin Dhanda** Oral

**Lead** - Presentations: (timing 20 minutes)

**Invited Paper** - Presentations: (timing 15 minutes)

**Oral** - Presentations: (timing 10 minutes)

	Discussion and concluding remarks by Chair
16:31-17:00	<b>Closing ceremony (in MH)</b> <ul style="list-style-type: none"><li>• Remarks by Organizing Secretary</li><li>• Declaration and distribution of Best Posters awards</li><li>• Remarks by Dr Sushil Kumar, President, ISWS</li><li>• Remarks by Guest of Honor/ Chief Guest</li><li>• Vote of thanks by Dr V Paramesha, Local Organizing Secretary</li></ul>
17:01-17:30	<b>High Tea</b>
	<b>Saturday, February 7, 2020</b>
	<b>Field visits and Excursion</b>