ISWS Newsletter
A publication of Indian Society of Weed Science
January - June 2025
ISWS HOME PAGE ACCESSED AT: www.isws.org.in

Message from President

Dear ISWS Fraternity

A demand always looms large that weed management technologies should be easy to apply, less costly, efficient, and durable/ sustainable for adoption by the farming communities. Also, they should be ecologically sound, having no/negligible risk hazards on humans, animals and environment. This has now become a key priority in the context of growing concerns/challenges related to climate and environment. As the global demand for food, fiber, and fuel grows, farmers increasingly depend on herbicides due to their higher weed control efficiency and cost-effectiveness. Yet, over-reliance and non-judicious use of herbicides are not acceptable/desirable since these may witness complex challenges like herbicide resistance, weed flora shift, non-target toxicity to biodiversity, soil and water contamination, and overall ecosystem imbalance. These issues may further aggravate by the mounting pressures of climate change, water scarcity, energy crises, and soil health deterioration. Pests (weeds, insect pests, diseases, and others) generally accounts for 20–40% yield losses in crops of which nearly one-third (33%) crop yield losses are due to weeds, which calls for effective, precision, and eco-friendly weed management.

History is the witness of several gradual changes in the methods and concepts of weed control, from weed control to weed management or integrated weed management, and presently, may another shift/ turn-over need to take place from integrated weed management to integrated precision weed management using precision tools (artificial intelligence/AI, machine learning/ML, sensors, robotics, drones etc.). Several time-honoured approaches such as proper crop husbandry, conservation tillage, live & dead residue cover, vertical & horizontal crop diversification/ intensification, botanicals/ bioherbicides/biological interventions, precision input management should accompany judicious use of herbicides using 5R stewardship (right choice, source, dose, method, and time) for climate resilient, sustainable and profitable weed management in crops/ cropping systems. Advances in biotechnology/genetic engineering, machine learning/ vision, drones, and robotics may offer promising avenues and solution for reducing environmental concerns from herbicide use in weed management. Accordingly, global weed management research is shifting and tilted towards these newer approaches. Developed nations are focusing on site-specific precision weed management using AI, autonomous weeder, harvest weed seed management, and bioherbicides derived from natural products/metabolites. Europe and Australia are spearheading efforts in herbicide resistance monitoring networks, while in USA, precision spraying technologies and mechanical weeding tools are gaining momentum. Adopting such innovations in Indian agro-ecologies, especially in small-holder systems as applicable, can accelerate the progress towards greener and resilient weed management.

The Indian Society of Weed Science (ISWS) continues to act as a nodal/central platform for promoting weed research, education, and technology dissemination. It facilitates nurturing of talents/brains of scientists and fosters collaborations across institutions by conducting trainings, webinars, national and international conferences. It also invites/encourages participation from novice researchers, students, and industry professionals to join hands together to strengthen this scientific community. Looking ahead, the Fourth (4th) International Weed Conference (IWC) on "Technological innovations in weed management for climate resilient sustainable agri-food systems" has been scheduled to be organized at Punjab Agricultural University (PAU), Ludhiana, India, during 18-21 November 2026, which will bring galaxies of scientists together from all over the globe, who will deliberate, deliver, and exchange ideas/views on recent significant advancements in weed research and management. I cordially invite your active participation and involvement for scholarly deliberations and exchange of ideas in the IWC.

The Indian Journal of Weed Science (IJWS) remains as the flagship publication and is a true reflection of the ISWS's scientific stature. We should collectively strive to improve its quality and NAAS score through submissions having scientific rigour and vigour. I profusely thank Prof. (Dr.) A.N. Rao (Editor-in-chief), Editorial Board Members, Author-Contributors, Reviewers, and Mr. Gyanendra for their collective efforts in its timely publications.

I also take this opportunity to thank Dr. C.P. Nath, the Newsletter Editor for his dedicated efforts in compilation and editing. Let us pledge/ reaffirm our commitment to "sustainable weed management for a productive agriculture, cleaner environment, and a food-secure future".

T.K. Das
President, Indian Society of Weed Science

RESEARCH HIGHLIGHTS

Adengo 315 SC® for the control of *Rottboellia cochinchinensis* in maize in Pathankot, Punjab

Simerjeet Kaur[1] and Karanpreet Singh[2]
[1]Punjab Agricultural University, Ludhiana;
[2]Bayer Crop Science Ltd.

In sub-mountaneous area of Punjab, Mr. Balbir Singh (village: Khalah; district: Pathankot) grows maize crop in his fields and do the custom hiring of maize sowing in adjoining villages (Thrial, Ranipur, Jaini Khalki, Jaini Uparli, Sandori, Gurah Khurad, Baroi, Kamwal). He approached the Punjab Agricultural University, Ludhiana during *kharif* 2024 for weed problem in his maize fields which is not being controlled with recommended herbicides in maize crop. Farmers urged that the infestation is increasing every year due to its high seed production potential. The weed identified was *Rottboellia cochinchinensis,* (itchgrass) infesting 30 hectares of maize fields in those villages. The density of this weed was 40-60 plants/m^2 and this infestation severely reduced maize grain yield. Itchgrass is also a serious weed problem in maize crop in other states such as Karnataka, Madhya Pradesh and Tamilnadu. This weed is highly competitive and invasive in in nature that outgrow the maize plants. Farmers find it hard to control manually because of presence of bristles on the leaf sheath. Farmers in this region relied upon inter-cultivation practices and manual hand weeding to control this weed which increase their labour cost. Bayer Crop Science's 'Adengo 315 SC' is a new premix, pre-emergence and early-post emergence (1-3 weed leaf stages) herbicide that is claimed to manage *R. cochinchinensis* and other weeds. It is composed of two active ingredients, isoxaflutole 225 g/L (HRAC Group 27) and thiencarbazone-methyl 90 g/L (HRAC Group 2). PAU Ludhiana with the help of Bayer Crop Science used this herbicide @ 325-400 mL/ha for control of *R. cochinchinensis* at farmers' field during *kharif* 2025. 'Adengo 315 SC' significantly reduced the weed biomass and population of *R. cochinchinensis* and other weeds when sprayed at pre-emergence and early-post emergence. It also provided better control of *Cyperus rotundus, Commelina benghalensis, and Cucumis trigonus* and other grasses which were not controlled with atrazine. Overall, farmer was very satisfied with the control. Therefore, 'Adengo 315 SC' is a powerful tool for maize farmers where *R. cochinchinensis* (itchgrass) and other pernicious weeds are present.

Ready-mixes with pendimethalin for post-emergent cuscuta management in pulses

V. V. Goud
AICRP-Weed Management, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola (Maharashtra)

Dodder plants, also known as Cuscuta, are annuals parasitic plants with thread-like stems, reproduce both through seeds and vegetative propagation, devoid of leaves and chlorophyll, making them fully dependent on a host plant for survival with wide range of host, belonging to the Convolvulaceae family. The hard seed coat of cuscuta is significant obstacle to the germination until favourable condition especially sufficient moisture is achieved. In the Vidharbha region of Maharashtra usually in the *kharif season*, dodder seeds germinate during last fortnight of July. Once attached, the lower portion of the dodder stem withers and detaches from the ground, while the upper part continues to grow rapidly, forming a tangled mass. They rotate until they encounter another plant, and then begin to twine around it. If a dodder seedling doesn't find a suitable host after germination, it will not survive. Delayed weed emergence due to hard seed coats can indeed undermine the effectiveness of early weed management strategies like stale seedbeds and pre/post-emergence herbicides, even within a holistic approach. Fields with a history of dodder infestation require diligent monitoring, with immediate removal of new dodder plants to prevent further spread. Several herbicides can effectively control or suppress dodder, both as pre-emergence pendimethalin and post-emergence such as imazethapyr. In present study herbicides like pendimethalin 677.25 g/ha, diclosulam + pendimethlain (0.9+35%) ready mix (RM) 897.5 g/ha, pendimethalin + imazethapyr (30+2%) (RM) 960 g/ha, pyrithiobac sodium + pendimethalin (3.1+34%) (RM) 742 g/ha and imazethapyr (70%) 70 g/ha were applied at 30 days after *cuscuta* emergence. Based on study conducted by AICRP-Weed Management, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola during *kharif* 2024 revealed that application of pendimethalin (38.7%) 677.5 g/ha, pendimethalin + imazethapyr (30+2%) 960 g/ha (Ready-mix), diclosulam + pendimethalin (0.9+35%) 897.5 g/ha (Ready-mix) on month old cuscuta, leads to significant control of *cuscuta* biomass and recorded 90% weed control efficiency resulting in significant improvement in crop (soybean, greengram, blackgram, cowpea and niger) productivity. However, application of pyrithiobac sodium + pendimethalin 75 g/ha was found phytotoxic. It is also observed that due to its a rapid growth rate of approximately 7 cm per day, which can make control challenging after a month of growth, potentially necessitating twice herbicide applications with interval of five days for effective management.

Exploring novel modes of action of herbicides for sustainable management of weed resistance

M.N. Wairagade, V.G. More and D.G. Chavan
Department of Agronomy, College of Agriculture, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli (Maharashtra)

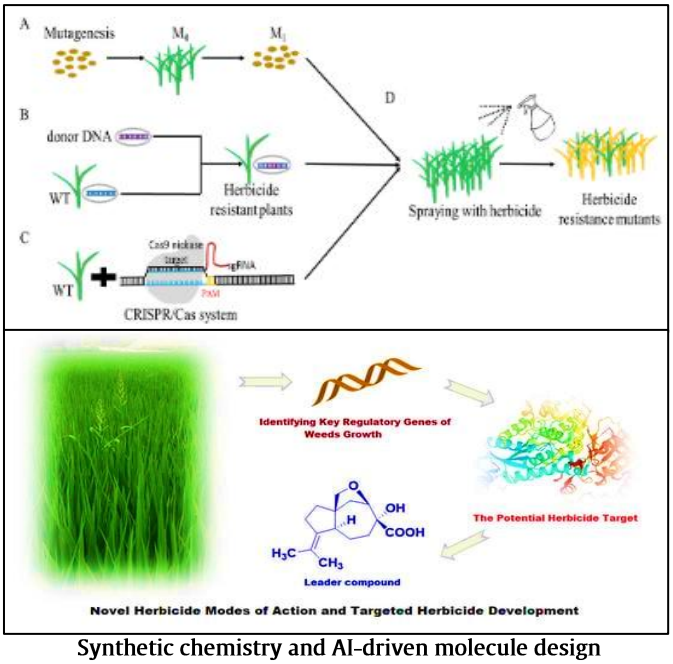
Weeds are the most persistent and damaging pests in global agriculture. They compete with crops for nutrients, water, light and space–often reducing yields by up to 30–40%

in major crops like rice, wheat, maize and soybean. Over the past five decades, chemical weed control through herbicides has revolutionized modern agriculture, making it more efficient and less labor-intensive. However, the repeated use of herbicides with the same mode of action (MoA) has led to a biological backlash–herbicide-resistant weed populations are rapidly evolving. Existing herbicides largely fall into 25 known modes of action, with many of them discovered in the 1970s–1980s. Since the early 1990s, very few herbicides with truly new MoAs have entered the market. The last major MoA class was HPPD inhibitors, discovered over 30 years ago. Thus, the development of herbicides with novel molecular targets is essential to: break existing resistance cycles, extend the life of older herbicide classes through rotation, and enable effective weed control in Integrated Weed Management (IWM) systems.

Recent breakthroughs in novel modes of action

Mode of Action (MoA)	Target Site	Development Stage	Significance
Inhibitors of dihydroxyacid dehydratase (DHAD)	Branched-chain amino acid synthesis	Early discovery	Unique to plants, low mammalian toxicity
Histone methyltransferase inhibitors	Epigenetic regulation	Pre-commercial	Novel concept disrupting gene expression
Oxidative phosphorylation uncouplers	Mitochondrial energy metabolism	Field testing	Effective against resistant grasses
Fatty acid thioesterase inhibitors	Lipid biosynthesis	Lab trials	New target for seedling control

Challenges and regulatory considerations: While innovation is ongoing, bringing a new herbicide to market takes 10–12 years and nearly $300 million USD. The potential challenges include: ensuring selectivity to avoid crop injury, meeting toxicological and environmental safety standards, combating public perception issues around new chemicals, navigating complex global regulatory frameworks, and a balanced approach that combines technological innovation with ecological and regulatory awareness is crucial. The future of herbicide development lies not only in chemistry but in integrated ecological strategies. New molecules should be designed to fit into: herbicide rotation and stacking strategies, crop diversification and cover cropping, precision weed mapping using drones and AI, smart delivery systems (nano-formulations, controlled release), and collaborations between academia, biotech firms and farmers will be key to translating lab innovations into field-level solutions. The herbicide resistance crisis presents both a challenge and an opportunity. The urgent need to develop herbicides with novel modes of action has sparked a renaissance in weed science, blending biotechnology, chemistry, ecology and data science. With a collaborative and sustainable approach, the next generation of herbicides will not only suppress weeds but also safeguard the future of food security.



Synthetic chemistry and AI-driven molecule design

A novel ready-mix herbicide for wheat that reduces weed interference and produces higher grain yield of wheat

Rishi Raj and T.K. Das
Division of Agronomy, ICAR-Indian Agricultural Research Institute, New Delhi 110012

Effective weed including resistant Phalaris minor control is a major challenge in wheat cultivation, in which unchecked weed growth significantly reduces yield and resource-use efficiency. This field study evaluated the effects of weed management on weed interference and wheat productivity. The weed management treatments comprised of pendimethalin 1000 g/ha (PE), pyroxasulfone 127.5 g/ha (PE), metribuzin 210 g/ha+ clodinafop 60 g/ha (PoE) (tank-mixed), bixlozone 750 g/ha+ metribuzin 150 g/ha (PoE) (ready-mixed), clodinafop 60 g/ha + metsulfuron 5 g/ha (PoE) (tank-mixed), sulfosulfuron 32 g/ha + metsulfuron 2g/ha (PoE) (ready-mixed 40 g/ha), clodinafop 60 g/ha + 2, 4-D ethyl easter 750 g/ha (PoE) (tank-mixed), and pendimethalin 1000 g/ha (PE) fb conoweeding at 40 DAS and these were compared with unweeded control (UWC) and weed-free control (WFC) under a randomized block design with three replications. Results revealed that bixlozone 50% + metribuzin 10% WG (PoE) achieved the lowest grassy, broad-leaved, and total weed dry weight, closely followed by metribuzin + clodinafop and pendimethalin (PE) followed by conoweeding. Conversely, the UWC observed the highest total weed biomass (171 g/m²), clearly indicating the severity of weed interference under untreated conditions. Weed control index (WCI) was maximum in bixlozone + metribuzin (PoE) (91.3%) followed by metribuzin + clodinafop (89.1%) and pendimethalin fb conoweeding (88.1%). Ready mixed of bixlozone @750 g/ha+metribuzin @150 g/ha (PoE) resulted in the highest wheat grain yield (6.47 t/ha) closely followed by metribuzin @210 g/ha+clodinafop @60 g/ha (PoE) and the lowest yield was observed in UWC. The UWC, however,

yielded only 4.31 t/ha, showing a 34.2% yield loss in wheat due to weed competition. Weed index analysis confirmed that the yield reduction under bixlozone + metribuzin was the lowest (~1.2%), underscoring their effectiveness in maintaining crop productivity. The study highlights that new herbicide combinations, bixlozone + metribuzin, would control complex weed flora in wheat fields effectively and result in higher yields and better input-use efficiency.

Bixlozone +metribuzin (Ready-mix) Clodinafop + metsulfuron (tank-mixed)

Deciphering post-emergence herbicide tolerance in major pulse crops

C.P. Nath and Narendra Kumar
Division of Crop Production, ICAR-Indian Institute of Pulses Research, Kanpur (Uttar Pradesh)

Weeds create a serious problem in cultivation of pulses and reduce the yield up to 90%. To control weeds in pulses, use of post-emergence (POST) herbicides becomes important. But, very few post-emergence herbicides are available for controlling broad-leaved weeds in pulses. Therefore, there is an urgent need to identify and evaluate the post-emergence herbicide to control broad-spectrum weeds in pulses for effective weed control and to obtain better crop yield. The objective was to assess the phytotoxic, morpho-and yield variability and efficacy of POST herbicides in pulses. Genotypes tolerance and crop selectivity were tested in chickpea, fieldpea, lentil in winter season and mungbean, urdbean in rainy season. The POST herbicides targeted in winter pulses were topramezone 20.6, 25.7 and 30.9 g/ha (pigment synthesis inhibitor), halosulfuron-methyl 70, 105 g/ha (ALS/AHAS inhibitor), imazethapyr 75, 100, 112.5 g/ha (ALS/AHAS inhibitor), carfentrazone ethyl 20, 30 g/ha (protoporphyrinogen oxidase inhibitor). The targeted herbicides in rainy season pulses were clodinafop-propargyl + Na-acifluorfen (CPNaA) 122.5, 187.5, 245 g/ha (lipid synthesis/protoporphyrinogen oxidase inhibitor) and halosulfuron-methyl. The 150 genotypes of urdbean, 360 genotypes of chickpea, 330 genotypes of fieldpea, and 30 genotypes of lentil were screened. Three lines of each genotype was grown with treated and non-treated condition. Crop phytotoxicity score (0-10 scale: 0= complete tolerance; 10 = susceptible), crop phenological shift (delay in maturity), and yield difference were recorded against each herbicide. Based on phytoxicity scale and yield variability, a significant genotypic variability was observed in pulse crops. Tolerant genotypes of lentil found against imazethapyr as post-emergence application. Tolerant genotypes of lentil against imazethapyr 100 g/ha were 'EC 248330A', 'ILL 6540B' (phytotoxicity range 1-2) with yield reduction (5-8%). In fieldpea, 'DMR 6' and 'IP2K 101' tolerant (topramezone 25.7 g/ha) with phytotoxicity 0-1 with a minimal yield reduction (2-5%). One chickpea genotype ('ICC 121315') tolerant to imazethapyr at 150 g/ha dose was screened/identified and registered for herbicide-tolerant chickpea genotype. Many promising lines are being developed that can be used for breeding programme.

Screening and experimental plot of herbicide tolerance in pulses

Long-term conservation agriculture influences weed density and species-diversity in pigeon pea-wheat system

Tarun Sharma, T. K. Das, Rishi Raj and Prabhu Govindasamy
ICAR-Indian Agricultural Research Institute, New Delhi

Over a 12-year period, the long-term conservation agriculture (CA)–based pigeon pea–wheat system demonstrated a significant transformation in weed dynamics. The CA-based permanent flat-bed configuration with residue retention resulted in an 87.3–89.7% reduction in weed emergence and density at 30 days after sowing (DAS) compared with conventional tillage (CT), primarily due to the cumulative effects of surface residue cover and zero tillage in suppressing weed germination during the early crop growth stages. During winter 2021–22, there were higher Shannon–Weiner diversity index and Simpson dominance index under CA than CT, which reflected the enhanced species diversity in CA than CT. The Sorensen similarity index (0.62) indicated that only 62% of weed species were common between the two tillage systems, signifying a notable shift in weed community composition over the 12-year period. Notably, densities of *Phalaris minor* and *Chenopodium album* declined under CA, while *Cyperus esculentus, Parthenium hysterophorus*, and *Malva parviflora* exhibited increased prevalence in 2021–22 relative to 2010–11. These findings underscore that prolonged adoption of CA not only reduces weed pressure but also alters the weed flora composition, highlighting an ecological transition toward a distinctly structured weed community under conservation-based production systems.

Pigeonpea stover left and leaf litter in flatbed CA treatment

Insurgence, germination biology of *Cyperus esculentus* L. and its management using herbicides

Tarun Sharma, T.K. Das, D. Vijay, Rishi Raj, Prabhu Govindasamy and C.T. Manjunath Prasad
ICAR-Indian Agricultural Research Institute, New Delhi

The insurgence of *Cyperus esculentus* L. (yellow nutsedge) has become increasingly evident in the recent years under an ongoing long-term Conservation agriculture (CA) based systems. The diverse contrasting tillage systems adopted over 14 years period i.e., conventional tillage (CT), zero tillage without residue and conservation agriculture (CA) based zero tillage with residue retention had shown a significant infestation of this weed. The insurgence of this weed indicated its broad ecological adaptability and emerging dominance in diverse soil management regimes. Its proliferation under ZT without residue system suggests about its proliferation, seed bank enrichment and persistence under this system owing to the favourable microclimatic environments promoting its persistence and competitive advantage. Detailed investigation on its dormancy, germination ecology, and management revealed that tubers collected during the winter season exhibited maximum dormancy and required the longest period for germination, indicating dormancy induction following the cessation of the rainy season. After-ripening at 42°C significantly enhanced germination rate and percentage, confirming the positive effect of higher temperature on dormancy breaking with germination being maximum at 42°C, followed by 25°C and 20°C for winter-harvested tubers. Light exposure considerably promoted germination rate compared to dark conditions, while seedling emergence declined sharply with increasing depth of tuber placement, suggesting a strong influence of edaphic factors on emergence dynamics. Among the herbicidal interventions, halosulfuron-methyl at 60 g/ha at 30 days after sowing of maize provided the highest control efficacy (~79% reduction in weed biomass), whereas under field conditions, the tank-mix application of halosulfuron-methyl (30 g/ha) with tembotrione (120 g/ha) exhibited superior broad-spectrum weed control at 30 days after maize sowing. These findings highlight the increasing insurgence and ecological plasticity of *C. esculentus* under CA conditions, underscoring the necessity for continuous monitoring and the development of integrated weed management strategies combining ecological insights with targeted chemical control to mitigate its potential threat to sustainable cropping systems.

Maize field

Inflorescence

Tubers

Weed Science in a global perspective: a random thought for herbicide resistance and management strategies

C.P. Nath[1], T.K. Das[2], V.K. Choudhary[3]
[1]ICAR-Indian Institute of Pulses Research, Kanpur
[2]ICAR-Indian Agricultural Research Institute, New Delhi
[3]ICAR-Directorate of Weed Research, Jabalpur

Globally, the focus of weed science is now shifting from short-term control toward sustainable and adaptive management aligned with climate resilience and environmental safety. The foremost challenge in global weed management is herbicide resistance, severely threatening the efficacy of existing herbicide chemistries. Globally, there are 537 unique cases of herbicide resistance, affecting 273 species of weeds (156 dicots and 117 monocots) across 75 countries and 102 crops. This resistance impacts 21 out of the 31 known herbicide modes of action and 168 different herbicides. A unique example includes *Amaranthus palmeri* (Palmer amaranth) resistant to glyphosate and *Conyza canadensis* (Horseweed) resistant to multiple herbicides like glyphosate and paraquat (Heap, I. The International Herbicide-Resistant Weed Database. retrieved on October 6, 2025; www.weedscience.org). Many regions, including North America, Australia, and Asia, are witnessing resistance to multiple modes of action, necessitating the discovery of new molecules and the adoption of integrated management approaches. Climate change further complicates weed–crop competition, as rising CO_2 levels, higher temperatures, and erratic rainfall patterns are altering weed flora composition. Simultaneously, the decline in herbicide discovery and registration due to stringent regulations, environmental concerns, and high development costs highlights the urgent need for alternatives such as bioherbicides, allelopathic crop varieties, and microbial-based weed control strategies. The overdependence on chemicals also raises issues related to environmental health, including herbicide residues, biodiversity loss, and soil microbial imbalance, prompting stronger international scrutiny and eco-regulatory measures. Addressing these challenges calls for redefined research priorities. Integrated Weed Management (IWM) systems that combine mechanical, cultural, biological, and chemical methods are increasingly emphasized, with precision technologies such as drones, robotics, AI and sensor-based weed detection, mapping, and gaining traction in advanced agricultural nations like the USA, Japan, Australia, and Europe.

Strengthening global resistance monitoring networks such as HRAC and WSSA is crucial to guide responsible herbicide use and delay resistance evolution. Meanwhile, eco-friendly and digital innovations–including bioherbicides, RNAi-based weed gene suppression, and weed-suppressive cover crops–are emerging in countries like Canada and Australia. In developing regions, particularly Asia and Africa, collaborative efforts under ICAR, CIMMYT, ICRISAT, IRRI, ICARDA, and FAO frameworks are enhancing sustainable weed management through climate-resilient

and resource-conserving technologies tailored to smallholder systems. As agriculture expands to meet the food demands of a growing population, weed management has evolved from manual weeding to integrated, knowledge-driven systems encompassing ecological, technological, and socio-economic dimensions. Use of simulation modelling for detection, monitoring, and decision-making for managing herbicide resistant weeds are demand of time. There is a need to study the evolutionary biology and mechanism of herbicide resistance in weeds and their sustainable management solutions in large agro-ecologies. Future research must focus on harmonizing productivity, profitability, and environmental stewardship to ensure climate-resilient and sustainable food systems worldwide.

A joint-venture Parthenium eradication campaign in Assam

Anjan Krishna Sarmah
Councillor, Assam

To address the growing menace of *Parthenium hysterophorus*, a highly invasive and toxic weed threatening agriculture, biodiversity, and health, Assam Agricultural University (AAU) in collaboration with the Government of Assam (GoA) organized a *Parthenium* Eradication Campaign across the selected districts of Assam from 23 to 26 June 2025. The campaign aimed to raise mass awareness about the adverse impacts of *Parthenium* and training to farmers and local stakeholders. It aimed for identification and eradication of *Parthenium* and encouragement for community-led efforts and institutional collaboration. The campaign was simultaneously conducted in four districts of Assam namely Nagaon, Morigaon, Kamrup (Metro), and Kamrup (Rural). The programme was led by two centres of AAU: AAU-Zonal Research Station (ZRS), Shillongani, covering Nagaon and Morigaon and AAU-Horticultural Research Station (HRS), Kahikuchi, covering Kamrup (M) and Kamrup (R). Both centres collaborated with district administrations and line departments for smooth conduct of the campaign. AICRP on weed management, AAU centre provided the technical support during the entire campaign. The central inaugural programme was held on 23rd June 2025 at Khetri Gaon Panchayat, Kamrup (Metro), and was graced by Dr. Bidyut Chandan Deka, Hon'ble Vice-Chancellor, Assam Agricultural University. Mr. Gunajit Kashyap, Joint Secretary, Department of Agriculture, Government of Assam. Dr. Deka emphasized the ecological and agricultural threats posed by *Parthenium hysterophorus* and advocated for integrated and community-based weed management strategies. Simultaneously, a district-level inaugural event was held in Nagaon at Uriagaon Bypass, Khagorijan, where, Sri Debashish Sarmah, Deputy Commissioner, Nagaon, Dr. P.K. Pathak, Dean, College of Agriculture, AAU, Dr. M. Saikia, Associate Director of Research Prof. K. Pathak, Head, Department of Agronomy, AAU flagged off the campaign. The Deputy Commissioner appealed to the public to spread awareness and take up local eradication drives. During the four-day programme, awareness materials on Parthenium identification and control were distributed extensively along the National Highway-37 corridor between Nagaon and Guwahati. Road side demonstrations, leaflets distribution and farmer-scientist interactions formed key components of the outreach strategy. Feedback from participants was collected to evaluate the campaign's impact.

Parthenium-free campus initiative: a call for collective action

K.N. Geetha, Professor and Scheme Head, AICRP on Weed Management, UAS, GKVK, Bangalore

Parthenium hysterophorus–commonly referred to as 'congress grass' or 'carrot weed'–is one of the most aggressive and invasive weeds in India and several parts of the world. It poses serious risks to human and animal health, disrupts biodiversity, and significantly affects agricultural productivity. To combat its widespread menace, the Indian Council of Agricultural Research (ICAR) launched the Parthenium Awareness Week (PAW), observed every year from 16th to 22nd August, to encourage proactive action and raise public awareness. This national initiative has fostered community engagement, improved awareness, and promoted effective parthenium control measures across various regions.

Monsoon Action Plan at GKVK Campus: As part of the ongoing *Parthenium*-Free Campus Initiative, a focused parthenium management drive is being undertaken at the GKVK Campus during the monsoon season. This period is critical, as *Parthenium* thrives and spreads rapidly with rainfall. All departments, staff, faculty, and student groups are earnestly requested to actively participate in parthenium removal activities and implement the recommended practices in their designated areas. Community participation is critical to ensuring a clean, safe, and healthy campus environment. Through an integrated approach combining manual removal, biological agents, and ecological

interventions, UAS, Bangalore has significantly reduced *Parthenium* infestation in key locations across campus. Although total eradication is difficult due to the weed's seed longevity (6–10 years), consistent and integrated action can effectively reduce *Parthenium* to non-threatening levels and make GKVK a model *Parthenium*-free Campus. Whether it is through creating awareness, engaging in field-level action, or periodic monitoring, community contribution is vital in this drive. Let's eradicate the *Parthenium* weed–not the green! Team AICRP on Weed Management, UAS Bangalore.

Visit of Sri. Sobhandeb Chattopadhyay, Hon'ble Minister-in-Charge, Agriculture and Parliamentary Affairs, West Bengal

Dhiman Mukherjee
Bidhan Chandra Krishi Viswavidayalaya, West Bengal

Sri Sobhandeb Chattopadhyay, Hon'ble Minister-in-Charge, Agriculture and Parliamentary Affairs, West Bengal, visited fields and farms at Red and Lateritic Zone Regional Research Station, Jhargram, West Bengal of Bidhan Chandra Krishi Viswavidayalaya, Mohanpur, Nadia on 29.06.2025. He visited various field trials and was appraised of various recent weed

problems like new weed flora invasion. Weeds can suppress crop growth and yield by effectively competing with crop for environmental resources like water, light, nutrients and production of allelopathic compounds. The problem is exacerbated by the diverse weed flora in the region and the challenges of effective weed control, particularly in cashew, cereals and pulse fields. He emphasized the need for better field management for higher economic returns to the farmers in the red latertic zone of West Bengal. Lastly, he highlighted the need for quality planting material with good crop management including various quarantine measures.

Visit to various fields and interaction with scientists and State Government Officials regarding future course of action for sustainable farming in Jhargram District of West Bengal. More emphasis was given on the good agricultural practices (GAPs)

HONOURS AND AWARDS

Dr. Subhash Babu elected as a Fellow, National Academy of Agricultural Sciences (NAAS), New Delhi in 2025

Dr. Subhash Babu, Senior Scientist, Division of Agronomy, ICAR-Indian Agricultural Research Institute, New Delhi has been elected as a Fellow of NAAS in 2025. He is working on crop diversification, farming systems, organic farming, precision farming, and agroforestry.

M.Sc. theses in Weed Science

Name	Name of chairmanship	Thesis title	University
M.Sc.			
Mr. Nihal P.M.	Prof. (Dr.) Ameena M.	Integrated weed management in blackgram (*Vigna mungo* (L.) Hepper) with premix herbicides	College of Agriculture, Kerala Agricultural University, Vellayani, Trivandrum

Welcome to new life members of Indian Society of Weed Science (Jan-June, 2025)

1. Dr. Reuben Kudiabor LM-1664
   IRRI-South Asia Regional Centre, Varanasi, Uttar Pradesh
2. Dr. Mithila Jugulam LM-1672
   Texas A&M AgriLife Research and Extension Center, Texas, USA
3. Dr. Dinesh Tiwari LM-1673
   Krishi Vigyan Kendra, Lalitpur, Uttar Pradesh
4. Dr. Nalini Nune LM-1674
   PJTAU, Nagarkurnool, Telangana
5. Dr. Sahaja Deva LM-1675
   Krishi Vigyan Kendra, Chittoor, Madhya Pradesh
6. Dr. Rahul Sadhukhan LM-1677
   Central Agricultural University, Imphal, Thenzawl, Mizoram
7. Dr. Shipra Yadav LM-1676
   ANDUAT, Ayodhya, Uttar Pradesh
8. Dr. Arvind Kumar Yadav LM-1689
   Sri Karan Narendra Agriculture University, Jobner, Rajasthan
9. Dr. Sushmita Munda LM-1678
   ICAR - National Rice Research Institute, Cuttack, Odisha
10. Dr. Dhananjay Tiwari LM-1680
    Narayan Institute of Agricultural Sciences, Sasaram, Bihar
11. Dr. Ramakrishna Yeraboina LM-1681
    ICAR-CIARI, Sri Vijaya Puram, Andaman and Nicobar Islands
12. Mr. Sunil Kumar Naganur LM-1682
    Syngenta India Pvt Ltd, Pune, Maharashtra
13. Mr. Hilal Mohamed LM-1683
    Kerala Agricultural University, Thrissur, Kerala
14. Prof. V.K. Dobariya LM-1684
    Junagadh Agricultural University, Junagadh, Junagadh, Gujarat

CALENDAR OF UPCOMING EVENTS

DATE	EVENT	LOCATION	Website
19–24 October 2025	**9th International Weed Science Congress (joint with 29th Asian-Pacific WSSC & 17th China Weed Science Conference)**	Nanjing, China	iacwsc2025.cn
8–13 March 2026	**XVII International Symposium on Biological Control of Weeds**	Rotorua, New Zealand	https://isbcw-rotorua.com/)
9 – 12 February 2026	**WSSA 2026 Annual Meeting**	Raleigh North Carolina, USA	https://wssa.net/meeting/2026-annual-meeting/
28 – 30 January 2026	**CWSS 2026 Annual Conference**	Santa Barbara California, USA	https://cwss.org/conferences/
17–20 November 2026	**4th International Weed Conference (IWC India)**	Ludhiana, Punjab, India	(isws.org.in)

ISWS members are requested to contribute any major research finding as a news, awards obtained, Ph.D. obtained, forthcoming events on weed science *etc.* to:

Dr. C.P. Nath
Senior Scientist (Agronomy)
ISWS Newsletter Editor
ICAR- Indian Institute of Pulses Research, Kanpur 208 024 (Uttar Pradesh), India
email: cpnath4@gmail.com; Mobile: +917318177223

Designed by:
Gyanendra Pratap Singh
Office Manager, ISWS,
ICAR - Directorate of Weed Research (DWR), Maharajpur, Jabalpur 482 004
Mobile: 9300127442; Email: iswsjbp@gmail.com