



## Editorial

# Sarhad Journal of Agriculture: A Journey of Excellence, Diversity, and Global Impact

**Prof. Dr. Amanullah**

*Chief Editor, Sarhad Journal of Agriculture, Department of Agronomy, The University of Agriculture, Peshawar, Pakistan;  
sja@aup.edu.pk*

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## A New Chapter Begins

It is with immense pride and a profound sense of responsibility that I present this Editorial for the **second issue of Volume 42 (April–June 2026)** of the **Sarhad Journal of Agriculture (SJA)**. As the newly appointed Chief Editor, I am deeply honored to carry forward the legacy of this esteemed journal—a legacy built over four decades since its inception in **1985** by the visionary **Dr. Naseer Hussain**, the inaugural Editor who laid its foundation.

SJA has grown from a modest provincial journal to an internationally recognized, HEC-accredited, open-access publication with a global footprint. Today, it stands as a beacon of agricultural research, serving as a platform for scientists, researchers, and students from Pakistan and across the world. This issue marks a significant milestone in our journey—a journey that reflects our commitment to excellence, innovation, and diversity in agricultural sciences.

## Vision of the Vice Chancellor: A Catalyst for Change

The Sarhad Journal of Agriculture operates under the patronage of **Prof. Dr. Sar Zamin Khan**, the dynamic Worthy **Vice Chancellor** of The University of Agriculture, Peshawar. His vision is clear and ambitious: **to transform the university into a top-ranked institution and elevate SJA to an internationally recognized journal with a tangible Impact Factor.**

Prof. Dr. Sar Zamin Khan's leadership has been instrumental in creating an enabling environment for research and publication. His unwavering support has revitalized the journal's operations, strengthened its editorial structure, and inspired a culture of quality and accountability. His vision is directly aligned with the Government of Khyber Pakhtunkhwa's new funding model, which now ties institutional funding to university rankings—making the success of SJA not just an academic goal, but a strategic imperative for the entire university.

This journal, under his patronage, is not merely a publication; it is a vehicle for **national development, global recognition, and the realization of the university's vision for excellence.**

## This Issue: A Reflection of Multidisciplinary Excellence

The second issue of **Volume 42** is a testament to the diverse and evolving nature of agricultural research. It features **a remarkable collection of 45 research articles and 1 comprehensive review**—spanning a wide array of disciplines, from crop production and plant protection to animal sciences, food safety, environmental sustainability, and emerging technologies.

This issue is a reflection of our commitment to publishing high-quality, impactful research from national and international contributors. The articles published in this issue address some of the most pressing challenges facing agriculture today, including:

- Climate Change and Food Security

- Water Scarcity and Irrigation Management
- Integrated Pest and Disease Management
- Nutrient Management and Soil Health
- Precision Agriculture and Digital Technologies
- Livestock and Poultry Production
- Food Safety and Quality Assurance
- Socio-Economic and Policy Issues in Agriculture

## A Closer Look at the Papers in This Issue

The diversity of research presented in this issue is remarkable, with contributions spanning multiple continents, disciplines, and themes. The papers can be broadly categorized into the following thematic areas:

### 1. Crop Production and Agronomy

- **Strategic Irrigation Management in Wheat** (Mouri et al.) explores how optimized irrigation scheduling can enhance growth, phenology, and grain yield in bread wheat—a critical contribution for water-scarce regions.
- **Critical Period of Weed Control in Quinoa** (Neela et al.) provides essential insights into weed management strategies for an emerging high-value crop, quinoa.
- **Density and Yield of Rice with Satellite Monitoring** (Ardila Marín et al.) demonstrates the power of integrating satellite technology with agronomic practices for real-time crop monitoring.
- **Optimizing Ultra-Early-Maturing Rice** (Bahrun et al.) investigates pruning and variety selection to enhance productivity in short-duration rice systems.
- **Resilient Nursery Practices in Rice** (Anwar et al.) highlights nursery management techniques for improved rice productivity in floodplain ecosystems.
- **Response of Faba Bean to Fertilizer Regimes** (Al-Gharani) evaluates how different nutrient applications affect vegetative growth and yield in faba bean.
- **Potato Production Economics in Nepal** (Dahal et al.) examines economic returns and obstacles in potato farming in the Karnali Province.
- **Screening Bread Wheat for Drought Stress** (Alkhalifa et al.) combines field-based and AI-powered approaches to characterize drought-tolerant wheat genotypes.
- **Lentil Germination under Climate Change** (Njili et al.) studies temperature effects on

germination across 17 lentil varieties in Morocco.

### 2. Plant Protection and Pest Management

- **Botanical Extracts against Sucking Pests in Bitter Gourd** (Khan & Ullah) evaluates eco-friendly alternatives to synthetic pesticides for pest control in cucurbit crops.
- **Citrus Disease Detection using Image Processing** (Batool et al.) applies transfer learning and AI for early detection of blemishes and canker diseases—a game-changer for citrus orchards.
- **Efficiency of Essential Oils against Jujube Fruit Pests** (Al-Jboory & Hermize) tests plant essential oils against fruit flies infesting jujube.
- **Rosemary Fungal Pathogens in Iraq** (Al-Ameri et al.) provides the first morpho-molecular identification of fungal isolates affecting rosemary.
- **Biocontrol Bacteria as PGPR** (Sajili et al.) evaluates plant growth-promoting rhizobacteria for sustainable crop protection.

### 3. Livestock, Poultry, and Animal Sciences

- **Nano-Amino Acids in Broiler Chickens** (Hassoon et al.) explores the productive response of drinking water supplementation with nano-amino acids in Ross 308 broilers.
- **Arthropod Pests of Poultry and Livestock** (Majeed et al.) provides a comprehensive review of pest incidence and management strategies in the livestock sector.
- **Bali Cattle Reproductive Performance** (Irfanda et al.) evaluates reproductive performance and stakeholder satisfaction in the SIKOMANDAN program in Indonesia.
- **Functional Feeding Strategies in Laying Hens** (Abaas et al.) investigates the effects of nano-biological additives on productive performance.
- **Honey Bee Diets and Antioxidants** (Mahmoud et al.) compares the influence of artificial diets on protein levels and midgut health in *Apis mellifera*.

### 4. Aquaculture and Fisheries

- **Microbial Load in Iraqi Fish Species** (Mohaisen et al.) estimates microbial contamination and mineral elements in local fish species from Baghdad.
- **Heavy Metals in Cultured Carp** (Aldoghachi & Hussein) examines physiological health and heavy metal accumulation in *Cyprinus carpio*.
- **Weight-Length Association in *Tenuulosa toli*** (Shaikh et al.) studies biometric relationships

in fish landed at Karachi Harbor.

- **PCBs in Fish Farming Sediments in Iraq** (Al-Ali & Al-Khion) analyzes polychlorinated biphenyls distribution in sediment from fish cages in Shatt Al-Arab.

## 5. Food Science, Safety, and Nutrition

- **Raw Milk Quality and Adulteration in Peshawar** (Yousaf et al.) assesses public health risks associated with milk adulteration—a critical food safety issue.
- **Iodine Content in Table Salt Brands** (Afzal et al.) evaluates iodine levels and quality of table salt available in Peshawar.
- **Street Food Safety in Indonesia** (Abriana et al.) examines food safety practices among street food vendors in Makassar City.
- **Antioxidant Activity of Herbal Combinations** (Ismail et al.) investigates the inhibitory and antioxidant potential of Cat's Whiskers Herb and Stevia leaf.
- **Chia Oil Characterization** (Rossafi et al.) provides a comprehensive physicochemical and fatty acid profile of cold-pressed chia oil from Morocco.

## 6. Soil Health, Nutrient Management, and Environmental Sustainability

- **Gypsum-Induced Phosphorus Constraints** (Hundi et al.) examines the mitigating role of organic amendments in phosphorus availability in semi-arid soils.
- **Biochar and Liquid Organic Fertilizer in Chilli** (Kasim et al.) evaluates the response of Katokkon chilli to coconut husk biochar and liquid organic fertilizer in Indonesia.
- **Rhizobium Inoculation and Phosphorus in Chickpea** (Khan et al.) appraises yield and nitrogen-related traits in chickpea in response to microbial inoculation and phosphorus application.
- **Air Pollution Tolerance of Urban Trees** (Sabr & Ali) assesses biochemical responses of *Morus alba* and *Melia azedarach* in Erbil, Iraq.

## 7. Agricultural Engineering and Digital Agriculture

- **Smart Alarm Device for Poultry Respiratory Health** (Al-Salhi et al.) presents the design of a portable device for monitoring environmental conditions affecting poultry health.
- **Forecasting Soybean Harvest in Indonesia**

(Herdhiansyah et al.) uses POM-QM software for quantitative forecasting models in soybean area prediction.

- **Field and AI-Based Screening of Wheat Genotypes** (Alkhalifa et al.) integrates AI with morphological characterization for drought stress screening.

## 8. Socio-Economics and Agricultural Extension

- **Smart Farming Adoption in Malaysia** (Omar et al.) identifies key factors influencing the adoption of smart farming technologies among vegetable farmers.
- **Information Seeking Behavior under AKIS Framework** (Luqman et al.) investigates knowledge exchange roles of farmers in Pakistan.
- **Unpaid and Invisible Labour in Family Farming** (Ali et al.) analyzes the contribution of unpaid labor in Punjab's family farming systems.
- **Land Rights and Tenure Systems in Nigeria** (Aromolaran et al.) examines effects on livelihoods of Iggede households in Ogun State.

## 9. Plant Breeding, Genetics, and Biotechnology

- **Molecular Markers for Rust Resistance in Wheat** (Zeb et al.) identifies markers linked to rust resistance genes in Pakistani spring wheat—a major breakthrough for wheat breeding.
- **Multivariate Selection of Doubled Haploid Rice Lines** (Purwoko et al.) evaluates rice lines based on agronomic traits and blast resistance.
- **Multiplex PCR for Meat Species Identification** (Riaz et al.) uses mitochondrial genome sequences for rapid detection of six animal species in raw and processed meat.
- **Identification of Volatile Oils in *Mentha spicata*** (Alarkwazi) uses GC gas chromatography for plant metabolite profiling.
- **Micropropagation of *Dendrobium Orchid*** (Sulong et al.) assesses the effects of peptone and coconut water on in vitro propagation.

## 10. Review Article

- **Heat Stress in *Brassica napus*** (Yonas et al.) provides a comprehensive review of the toxic effects, physiological responses, and adaptive mechanisms of canola under heat stress conditions, offering valuable insights for climate-resilient breeding strategies.

## International and National Diversity

What makes this issue truly special is its **global diversity**, with contributions from **9 countries**:

| Country      | Number of Contributions |
|--------------|-------------------------|
| Pakistan     | 16                      |
| Iraq         | 9                       |
| Bangladesh   | 6                       |
| Indonesia    | 5                       |
| Malaysia     | 3                       |
| Morocco      | 3                       |
| Nigeria      | 2                       |
| Nepal        | 1                       |
| Colombia     | 1                       |
| <b>Total</b> | <b>46</b>               |

The distribution of corresponding authors includes: **Pakistan (16), Iraq (9), Bangladesh (6), Indonesia (5), Malaysia (3), Morocco (3), Nigeria (2), Nepal (1), and Colombia (1)**. Some papers also feature international collaborations, reflecting the growing global network of SJA and the collaborative nature of modern agricultural research. This international participation reflects the growing reputation of SJA as a preferred platform for researchers across the globe.

### Significance for Khyber Pakhtunkhwa, Pakistan, and the World

**For Khyber Pakhtunkhwa:** This issue directly addresses regional agricultural challenges—from water scarcity and pest outbreaks to livestock productivity and food safety. It showcases research that is immediately relevant to the province’s farming communities and supports evidence-based policy making. The journal plays a pivotal role in connecting local research with national and global agricultural discourse.

**For Pakistan:** SJA is one of the few HEC-recognized journals in the country that consistently maintains high publication standards. This issue contributes to Pakistan’s research output, strengthens its academic reputation, and supports the national goal of food security and agricultural sustainability. The inclusion of AI-based, molecular, and precision agriculture research aligns Pakistan with global scientific trends.

**For the World:** The global diversity of authors and topics positions SJA as an important contributor to

international agricultural science. The journal provides a platform for scientists from developing countries to share their research, while also addressing challenges—such as climate change, food safety, and sustainable intensification—that are of global concern.

### My Commitment as Chief Editor

I accepted the responsibility of Chief Editor with a clear mission: **to elevate SJA to international standards and compete with the best journals in Pakistan and abroad**. This commitment is not merely professional—it is personal and deeply rooted in my belief that quality research should be accessible, impactful, and inclusive.

### My vision for SJA includes:

- **Multidisciplinary Expansion:** SJA will welcome high-quality research from all agricultural and allied disciplines—from crop and soil sciences to animal husbandry, food technology, rural development, and AI in agriculture.
- **Global Editorial Board:** I am committed to diversifying the editorial board by including distinguished scientists from outside the university, women editors, international experts, and representatives from extension and research departments across Pakistan.
- **Innovation and Emerging Trends:** We will actively publish research on climate change, food systems, precision agriculture, and other burning issues—ensuring that SJA remains at the forefront of agricultural innovation.
- **Quality and Rigor:** Every manuscript will undergo thorough peer review by subject experts to ensure scientific integrity, novelty, and relevance.
- **Connecting Research to Real-World Impact:** We will encourage research that contributes to food security, sustainable development, and the well-being of farming communities.

### Acknowledgments

I extend my heartfelt gratitude to:

- **Prof. Dr. Sar Zamin Khan**, the worthy Vice Chancellor of The University of Agriculture, Peshawar, for his unwavering support, visionary leadership, and trust in my ability to lead this journal to new heights.
- **The Higher Education Commission of Pakistan** for recognizing and supporting SJA as

a quality journal.

- **ResearchersLinks Ltd.** for their professional content management and publication services.
- **The Editorial Board Members, Reviewers** and the **SJA Office** for their selfless dedication and commitment to maintaining the quality of SJA.
- **All Contributing Authors**—from Pakistan and around the world—for trusting SJA with their valuable research.
- **The University of Agriculture, Peshawar**, for providing an enabling environment that fosters academic excellence and innovation.

## A Call to the Academic Community

To our readers, contributors, and reviewers—I invite you to be part of this journey. Submit your best work, volunteer as a reviewer, recommend the journal to your colleagues, and help us build SJA into a globally recognized publication.

Together, we can elevate SJA to a **Q1/Q2 ranking**, secure an **Impact Factor**, and contribute meaningfully to the global body of agricultural knowledge.

## Conclusions

The **second issue of Volume 42** of the Sarhad Journal of Agriculture is a celebration of diversity, excellence, and innovation. It brings together **45 research articles** and **1 review** from **9 countries**, covering a broad spectrum of agricultural disciplines—from crop production and plant protection to animal sciences, food safety, environmental sustainability, and digital agriculture.

The international collaboration reflected in this issue—with contributions from Pakistan, Iraq, Bangladesh, Indonesia, Malaysia, Morocco, Nigeria, Nepal, and Colombia—demonstrates the journal's growing

global footprint. This diversity not only enriches the content but also strengthens the credibility and reach of SJA.

The issue also highlights the journal's alignment with the vision of **Prof. Dr. Sar Zamin Khan**, the worthy Vice Chancellor of The University of Agriculture, Peshawar, whose leadership is driving the university toward excellence and international recognition. His vision for a high-impact SJA is closely tied to the university's ranking and the province's agricultural development goals.

## As Chief Editor, I reaffirm my commitment to:

- Publishing high-quality, impactful, and innovative research
- Promoting diversity in authorship, editorial representation, and research themes
- Strengthening the journal's international presence and credibility
- Working toward an Impact Factor and global recognition

*Together, we will make SJA a symbol of excellence in agricultural research—for Khyber Pakhtunkhwa, Pakistan, and the world.*

**Pakistan Zindabad**

**Prof. Dr. Amanullah**

*Chief Editor*

Sarhad Journal of Agriculture

The University of Agriculture, Peshawar, Pakistan

**Email:** [sja@aup.edu.pk](mailto:sja@aup.edu.pk)

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