



Editorial

Sarhad Journal of Agriculture - Volume 42, Issue 3 (2026)

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Introduction

Sarhad Journal of Agriculture (SJA) (Online ISSN: 2224-5383) is the official, peer-reviewed, open-access scholarly journal of The University of Agriculture Peshawar, Pakistan. Established in 1985, the journal has been continuously publishing high-quality scientific research and serves as an international platform for the dissemination of original research, reviews, and short communications that advance agricultural sciences and promote sustainable agricultural development.

SJA publishes high-quality, original research covering all major disciplines of agricultural sciences, including Agronomy and Crop Production, Horticulture, Soil Science, Plant Nutrition, Plant Breeding and Genetics, Seed Science and Technology, Plant Protection, Entomology, Plant Pathology, Weed Science, Agricultural Biotechnology, Microbiology, Animal Sciences, Veterinary Sciences, Food Science and Technology, Agricultural Engineering, Water Management, Precision and Digital Agriculture, Climate-Smart Agriculture, Climate Change, Natural Resource Management, Environmental Sciences, Biodiversity, Sustainable Agriculture, Agroforestry, Fisheries, Forestry, Agricultural Economics, Agribusiness, Rural Development, Agricultural Extension, Social Sciences, and Food and Nutrition Security.

The journal welcomes innovative research that addresses contemporary global challenges, including food security, climate resilience, sustainable intensification, resource-use efficiency, environmental conservation, ecosystem restoration, biodiversity protection, circular agriculture, carbon-smart farming, One Health, and the achievement of the United Nations Sustainable Development Goals (SDGs).

Research articles are submitted by scientists, researchers, and academicians from Pakistan and around the world and undergo a rigorous double-blind peer-review process conducted by highly qualified national and international experts to ensure scientific excellence, originality, integrity, and ethical compliance. The journal is committed to maintaining the highest standards of publication ethics, transparency, and editorial quality in accordance with internationally recognized best practices.

The Sarhad Journal of Agriculture is managed by an internationally recognized Editorial Board under the leadership of the Editor-in-Chief and the Patron (Vice Chancellor, The University of Agriculture Peshawar). Through its commitment to excellence in research publishing, SJA aims to foster international scientific collaboration, promote interdisciplinary agricultural research, and disseminate knowledge that contributes to sustainable agricultural production, environmental stewardship, rural development, and

Aims and Scope

Sarhad Journal of Agriculture (SJA) is an open-access, peer-reviewed, multidisciplinary journal dedicated to publishing high-quality original research articles, review papers, and short communications across all fields of agricultural sciences. The journal provides an international platform for scientists, academicians, students, and professionals to disseminate innovative research and emerging developments in crop production, plant protection, animal sciences, biotechnology, natural resource management, climate-smart agriculture, food security, environmental sciences, agricultural economics, and related disciplines. SJA is committed to promoting scientific excellence, sustainable agricultural development, and the global exchange of knowledge by providing immediate, free, and unrestricted access to all published articles.

A Milestone Transition: From Quarterly to Bimonthly Publication

In response to the journal's growing national and international recognition, we are pleased to announce the transition of the SJA from quarterly publication (4 issues per year) to bimonthly publication (6 issues per year). This important milestone reflects our commitment to accelerating the dissemination of high-quality scientific research and serving the global agricultural research community more effectively. With the continued support of our authors, reviewers, editorial board, and readers, we are confident that SJA will continue to grow and, Insha'Allah, progress toward monthly publication (12 issues per year) in the near future.

This Issue: A Global Scientific Endeavor

This issue contains **20 manuscripts**, including **18 original research articles** and **2 review papers**, covering pages **1088–1324**. The published articles represent contributions from researchers across diverse geographical regions and scientific disciplines, reflecting the increasing international visibility, scientific quality, and global impact of the Sarhad Journal of Agriculture.

- 1 **Comparative Study of Biochemical Accuracy, Reliability, Relevancy between Traditional and Automated Methods for Blood Analyses in Broiler Chickens**
Authors: Ahmed A. Al-Salhi, Amena L. Al-Shareefi, Nawal J. Shanshool, Saif Sh. Kamel
Pages: 1088-1096
DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1088.1096>
- 2 **Navigating Climate Uncertainty: Determinants of Agricultural Adaptation Strategies in District Peshawar**
Authors: Nazish Ehsan, Uzair Ahmad
Pages: 1097-1107
DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1097.1107>
- 3 **Fungal Strain (Str-1) Extracted From Okra Roots Mitigates Chromate Stress in Maize (*Zea mays* L.)**
Authors: Abdullah, Sartaj Aziz, Ihteram Ullah, Sajid Ullah, Maham Jamshed, Nurul Haq, Habib ur Rehman
Pages: 1108-1118
DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1108.1118>
- 4 **Optimal Postharvest Handling Protocols for *Consolida ambigua* - A Novel Specialty Cut Flower**
Authors: Tazkia Hussain, Iftikhar Ahmad, Huda Hameed, Muhammad Asif
Pages: 1119-1128
DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1119.1128>
- 5 **Autoclave-assisted Rice Bran Stabilization: Effect on Lipase, Antioxidants and Phytochemicals**
Authors: Zafar Iqbal, Noorullah, Zulqarnain, Ubairah Majid, Abdul Majid, Saeed Ullah Khattak
Pages: 1129-1136
DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1129.1136>
- 6 **Biological and Boron-mediated Control and the Induction of Systemic Resistance in Cucumber against Root Rot Disease caused by *Pythium aphanidermatum***
Authors: M. Ghaith Ghayyib, Kadhim Z.K. Al-Karaawi
Pages: 1153-1167
DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1153.1167>
- 7 **Efficacy of Synthetic Herbicides, Organic and Inorganic Mulches, and Allelopathic Extracts for Sustainable Weed Control in Tomato**
Authors: Rashid Anwar, Muhammad Saddique, Muhammad Fawad, Meher Ali, Abdus Samad Khan
Pages: 1168-1177
DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1168.1177>

- 8 **Effect of Weed Management Strategies on the Growth, Yield, and Biochemical Quality of Boro Rice (BRRI dhan 102)**
Authors: Kawsar Hossen, Khandaker Bushra Rahman, Md. Ismail Hossain, Mst. Sharmin Jahan Tithi, Mahin Islam Talha, Md. Liton Mia, Sumaiya Akter, Mohammed Nuruzzaman, Md. Riyajuddin Karim, Tahmina Ferdous
Pages: 1178-1186
DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1178.1186>
- 9 **Evaluation of Lethal Toxicity of Commonly Used Pesticides on Three Species of Honeybees in Tehsil Taunsa, Punjab, Pakistan**
Authors: Muhammad Tauseef, Hadia Gul, Nasr Ullah Khan, Muhammad Mohibullah, Salma Shaheen, Douglas Law, Muhammad Shakeel, Daniel K.Y. Tan, Muhammad Yasin
Pages: 1187-1196
DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1187.1196>
- 10 **Evaluation of Microbial and Chemical Contamination in Drinking Water and the Role of Household Purification Systems in Improving Water Quality**
Authors: Hawraa A. Mohammed, Noor al-huda M. Ali, Khansaa A. Hussein, Asawer H. Sharif
Pages: 1197-1210
DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1197.1210>
- 11 **Synergistic Shade and Biochar Application for Improving Microclimate Conditions and Physiological Performance of 6-Month-Old Cocoa Trees**
Authors: Mutiara Nengsy Lenggang, Nasaruddin Nasaruddin, Ifayanti Ridwan
Pages: 1211-1224
DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1211.1224>
- 12 **Usage Patterns of Agricultural Information Sources across Agro-Ecological Zones of the Punjab, Pakistan**
Authors: Muhammad Luqman, Adeel Mustafa, Muhammad Yaseen, Muhammad Usman, Tahir Munir Butt
Pages: 1225-1235
DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1225.1235>
- 13 **Evaluation of Rice Bran Extract as a Low-Cost Medium for the Culture of *Spirulina Arthrospira platensis***
Authors: Zakeya Sultana, Tanzila Gias, Mousumi Das, Umme Kaniz Fatema, Md. Amzad Hossain
Pages: 1236-1245
DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1236.1245>
- 14 **Assessment of Herbicide Effectiveness in Weed Suppression and Agronomic Output in Dry Direct-Seeded Rice**
Authors: Israt Jahan, A.K.M. Mominul Islam, Md. Masud Rana, Tapon Kumar Roy, Sabina Yeasmin, Md. Parvez Anwar, Md. Moshir Rahman
Pages: 1264-1275
DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1264.1275>
- 15 **Role of Sorting Efficiency at Packing Stations in Reducing Fruit Fly-Infested Mangoes at Post-Harvest Stage in Western Burkina Faso**
Authors: Jérémy Kaboré, Rémy Anogmain Dabiré, Sylvain Nafiba Ouédraogo, Lucien Sawadogo, Muhammad Umair Ajmal, Muhammad Zeeshan Majeed, Issaka Zida, Hervé Bama
Pages: 1276-1284
DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1276.1284>
- 16 **Impact of Nano-Biological Synbiotic on Performance, Physiological Traits, and Gut Microbiota of Broiler Chickens**
Authors: Teeb Adel AlMaamouri, Hiba Sh. Hussein, Teeb A. Altabtabaai, Saif Sh. Kamel
Pages: 1285-1296
DOI: <https://dx.doi.org/10.17582/journal.sja/2025/42.3.1285.1296>
- 17 **Assessing the Effect of Mulching and Bio-fertilization and Nanoformulated NPK on Nutrients Profile of Soil and Plants of Three Olive (*Olea europaea* L.) Cultivars**
Authors: Zahraa Ali Hussain, Zeina Sami Rashid
Pages: 1297-1310
DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1297.1310>
- 18 **Effect of Agricultural Sulfur Application and Humic Acid Foliar Spray on Some Vegetative Growth Characteristics of Fig Seedlings (White Adriatic Cultivar)**
Authors: Mohammad Tarkhan Abo Almekh
Pages: 1311-1319
DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1311.1319>
- 19 **Climate-Smart Agriculture to Enhance Agricultural Production: A Bibliometric Analysis and Systematic Literature Review**
Authors: Shabrin Jahan Shaili, Md Mahedi, A.K.M. Kanak Pervez
Pages: 1137-1152
DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1137.1152>

Review Articles

20 Precision Agriculture Technologies for Better Production of Medicinal and Aromatic Plants: A Comprehensive Review

Authors: Ali Sabah Alhasan, Ali Fadaam Almehemdi, Raad Farhan Shahad, Hayder Abbas Drebee, Dalal Tareq Al-Ameri, Osama Majeed Hilal, Alaa Taima, Dhafer Alhajim, Hayyawi W.A. Al-Juthery, Raid Shaalan Jarallah

Pages: 1246-1263

DOI: <https://dx.doi.org/10.17582/journal.sja/2026/42.3.1246.1263>

Table 1: *Article type distribution*

Article type	Number	Percentage
Research Articles	18	90%
Review Articles	2	10%
Total	20	100%

Table 2: *Author appearances by country*

Country	Number of appearances	Percentage
Pakistan	38	37.6%
Iraq	27	26.7%
Bangladesh	25	24.8%
Burkina Faso	5	5.0%
Indonesia	3	3.0%
United Kingdom	2	2.0%
Australia	1	1.0%
Total	101	100%

Table 3: *International vs. national authors*

Category	Number of appearances	Percentage
International authors	63	62.4%
National authors (Pakistan)	38	37.6%
Total	101	100%

Table 4: *Author affiliation within Pakistan*

Affiliation	Number of appearances	Percentage
Agriculture University Peshawar	15	39.5%
Other KP Universities/Institutions	12	31.6%
Other Pakistani Institutions	11	28.9%
Total	38	100%

Table 5: *Country-wise summary*

Country	Appearances	Articles	Percentage
Pakistan	38	8	37.6%
Iraq	27	7	26.7%
Bangladesh	25	4	24.8%
Burkina Faso	5	1	5.0%

Country	Appearances	Articles	Percentage
Indonesia	3	1	3.0%
United Kingdom	2	2	2.0%
Australia	1	1	1.0%
Total	101	20	100%

Table 6: *Author distribution by article*

Article No.	Total authors	Country distribution
1	4	Iraq (4)
2	2	Pakistan (2)
3	7	Pakistan (7)
4	4	Pakistan (4)
5	6	Pakistan (6)
6	2	Iraq (2)
7	5	Pakistan (5)
8	10	Bangladesh (10)
9	9	Pakistan (7), UK (1), Australia (1)
10	4	Iraq (4)
11	3	Indonesia (3)
12	5	Pakistan (5)
13	5	Bangladesh (5)
14	7	Bangladesh (7)
15	8	Burkina Faso (5), Pakistan (2), UK (1)
16	4	Iraq (4)
17	2	Iraq (2)
18	1	Iraq (1)
19	3	Bangladesh (3)
20	10	Iraq (10)
Total	101	100%

Table 7: *Summary statistics*

Metric	Value
Total author appearances	101
Total articles	20
Average authors per article	5
Countries represented	7
International appearances	63 (62.4%)
National appearances (Pakistan)	38 (37.6%)

Acknowledgments

I extend my deepest gratitude to:

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agricultural science.

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ResearchersLinks Ltd for providing cutting-edge publishing tools and ensuring our contents are visible, accessible, and optimized for major indexing services.

The Editorial Board for their dedication and professionalism in managing the peer-review process.

Call for Submissions

We invite scientists, researchers, and students from around the world to submit their original research and review articles to Sarhad Journal of Agriculture. With our transition to bimonthly publication and the goal of becoming a monthly journal, we are well-positioned to provide rapid publication and maximum visibility for your work. Our commitment to open access ensures that your research reaches the widest

possible audience.

A Vision for the Future

As Editor-in-Chief, I reaffirm SJA's commitment to publishing innovative, evidence-based research that addresses the needs of farmers, policymakers, and the scientific community. We encourage submissions from early-career researchers and established scientists alike, providing mentorship and support throughout the publication process.

Together, we can advance agricultural science, enhance food security, and build a sustainable future.

Happy Reading!

Prof. Dr. Amanullah

Chief Editor

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<https://researcherslinks.com/journal/Sarhad-Journal-of-Agriculture/14>

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