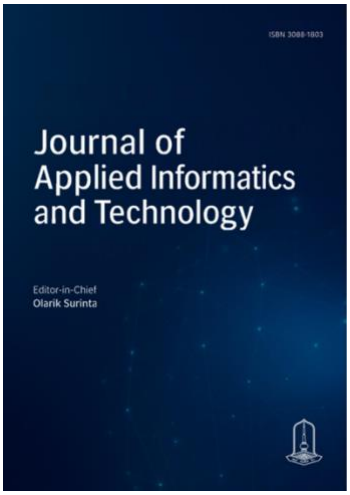
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Cross-country differences in the strategic positioning of Asia-based Scopus-indexed food science journals: A bibliometric analysis

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RESEARCH ARTICLE

Cross-Country Differences in the Strategic Positioning of Asia-Based Scopus-Indexed Food Science Journals: A Bibliometric Analysis

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Abstract

This study analyzes the strategic positioning and macro-level characteristics of Asia-based food science journals indexed in Scopus, addressing a critical gap in understanding journal-level development and editorial trajectories. Utilizing a quantitative bibliometric design, the research examined metadata spanning 2012–2025 from three high-performing journals selected from China (Journal A, 97th percentile, 4,002 documents), South Korea (Journal B, 98th percentile, 1,445 documents), and India (Journal C, 86th percentile, 6,206 documents). Data analysis and network visualizations were conducted via VOSviewer to map key structural indicators, including word co-occurrences, top authorship profiles, and international collaboration networks. The results reveal distinct, country-specific strategic orientations: the Chinese journal prioritizes global competitiveness through high-impact agricultural biotechnology and crop genetics; the South Korean journal concentrates heavily on animal science with dense co-authorship ties to major research powers such as the United States; whereas the Indian journal acts as an expansive regional hub for applied food technology, featuring highly decentralized partnerships across the Middle East and South America. These findings demonstrate that top-tier Asian journals systematically differentiate their scopes, ranging from elite international scientific integration to localized, applied problem-solving. This study provides a vital strategic roadmap for university administrators and national policymakers to effectively allocate research budgets and design targeted journal enhancement policies tailored to global or regional scholarly impacts.

1. Introduction

Scholarly journals in the domain of food science serve as critical platforms for disseminating novel scientific insights. They foster research, education, and innovation essential for addressing global food security challenges and developing sustainable agricultural practices (Wantong et al., 2025). Beyond knowledge dissemination, academic publishing has become intrinsically linked to institutional prestige, global university rankings, and research funding allocations (Soroya et al., 2022). Consequently, government agencies and university administrators heavily rely on database metrics, such as Impact Factor and CiteScore, to formulate strategic policies and award competitive research grants (Croft & Sack, 2022). Over the past decade, the global research landscape has witnessed an unprecedented growth of scientific publications originating from the Asian region, driven notably by massive national investments in countries like China and South Korea (Thelwall & Sud, 2022).

However, despite this rapid expansion in publication volume, a critical knowledge gap remains unresolved within international bibliometric and informatics scholarship. Prior studies have predominantly evaluated

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database metrics at a macro-national level or focused extensively on Western-based publishing models (Asubiaro et al., 2024; Donthu et al., 2020). Existing literature frequently treats "Asian journals" as a homogenous group, failing to investigate how journals in different Asian countries strategically position themselves to achieve high-impact status within the Scopus database. Specifically, there is a distinct lack of research focusing on journal-level strategic development, how individual high-percentile journals use specific thematic specializations, authorship concentration, and targeted international co-authorship networks to secure their standings in competitive Scopus quartiles. While broad institutional evaluations exist, the internal structural alignments and editorial trajectories that differentiate top-tier Asian food science journals remain poorly understood.

This study directly addresses these limitations by shifting the analytical lens from general country outputs to a comparative, journal-level strategic evaluation. By executing a detailed bibliometric mapping of top-performing journals from China, South Korea, and India, this research uncovers the underlying structural patterns behind their scientific influence. To guide this investigation, the study poses two central research questions:

1. What are the recent prominent research themes and keyword landscapes that characterize top-tier food science journals across different Asian nations?
2. What are the unique similarities and differences in authorship profiles and international collaboration networks that define the strategic positioning of these journals?

This research offers three primary contributions to the field of scientometrics and research management:

- **Theoretical Contribution:** It enriches scholarly communication literature by theorizing how national research priorities shape the thematic and collaborative behaviors of top-tier academic journals in emerging scientific superpowers.
- **Methodological Contribution:** It demonstrates a comparative, multi-indicator bibliometric framework (integrating keyword co-occurrence, institutional tracking, and geo-collaboration networks) specifically optimized for evaluating journal-level strategic positioning.
- **Practical/Policy Contribution:** It provides concrete, data-driven templates for university administrators and global policymakers to differentiate their funding strategies, helping them decide whether to support journals aiming for elite global integration or those focused on localized, applied regional consolidation.

2. Related Work

Existing literature within the domain of bibliometrics and scientometrics applied to academic journals can be critically classified into three primary thematic streams. The first stream focuses on macro-level evaluation of journal impact and temporal citation dynamics across multiple disciplines (Aghalari et al., 2023; Álvarez-García et al., 2023; Donthu et al., 2020). These studies have successfully demonstrated how global database metrics—such as CiteScore and Impact Factor, fluctuate over time and heavily influence institutional prestige (Croft & Sack, 2022; Saravudecha et al., 2023). However, a major limitation of this research stream is its hyper-focus on aggregated data, which obscures the individual strategic adjustments made by specific journals to maintain high-impact rankings. By relying purely on numeric rankings, these works fail to analyze the thematic and network configurations that drive a journal's success. The second stream narrows the focus to specialized disciplines, geographic regions, or institutional outputs, with notable emphasis on emerging scientific landscapes in nations such as India, Indonesia, and Central Europe (Bucher, 2018; Hanief et al., 2021; Mishra & Gautam, 2024; Singh & Pandita, 2017). Within food science and chemistry, bibliometric mappings have effectively traced publication growth and identified prominent thematic clusters, such as food preservation and gastrometrics (Öğretmenoğlu et al., 2022; Sahin, 2022). While these studies provide valuable descriptive insights into localized research production, they rarely employ a comparative cross-country design. Consequently, they treat regional performance as isolated cases rather than examining how different national research ecosystems structurally differentiate their leading journals within the same field. The third stream investigates unique operational dynamics and external systemic factors, including gender variation, publication speed, and the geopolitical

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dimensions of knowledge production (Alkadi et al., 2024; Baser et al., 2024; Chankseliani et al., 2021; Kulczycki et al., 2021). These studies critically demonstrate that academic publishing is not a neutral process; rather, it is actively shaped by funding structures and international relations (Damaševičius & Zailskaite-Jakšte, 2023). More recently, bibliometric research within the Asian context, particularly in Thailand, has begun exploring the performance of Scopus-indexed agricultural and biological science journals, establishing that journals based in different countries possess divergent characteristics regarding author affiliation, funding sources, and collaborative networks (Maporn et al., 2023; Maporn et al., 2024; Sirirak, 2021).

2.1 Research Gap and Specific Contribution

Despite the extensive coverage of these three streams, a significant gap remains unresolved at the intersection of cross-country comparison and journal-level strategic positioning. Most prior studies have either conducted broad macro-analyses of database coverage (Asubiaro et al., 2024) or restricted their scope to single-country evaluations. There is an absence of comparative research that critically examines how top-tier journals from different Asian nations, operating under distinct socio-political and economic funding structures, differentiate their scientific specializations and international network configurations to secure their competitive edge. The present study addresses this precise gap. By moving beyond descriptive metrics to perform a comparative, multi-indicator bibliometric mapping of high-percentile food science journals from China, South Korea, and India, this research uncovers the explicit strategic configurations that drive top-tier journal performance in the Asian context.

3. Materials and Methods

3.1 Research Paradigm and Design

This study is rooted in the positivist paradigm, which posits that scientific phenomena can be objectively measured, quantified, and systematically compared through empirical observation. Within this framework, scholarly publication metadata is treated as objective empirical evidence that reflects real-world scientific productivity, thematic orientation, and collaborative structures. Rather than interpreting the subjective experiences of individual editors or authors, this study utilizes quantitative bibliometric indicators as robust proxies to identify and map verifiable structural patterns and strategic positioning across academic journals.

Adopting a rigorous comparative quantitative bibliometric design, this study systematically extracts, cleans, and models publication data to evaluate journal performance indicators. The design avoids mixed-method frameworks and strictly adheres to mathematical and spatial network modeling to analyze and compare cross-country differences among the selected high-performing Asian food science journals indexed in Scopus.

3.2 Journal Selection and Dataset Sampling

The Scopus database was selected as the primary data source due to its comprehensive coverage of international peer-reviewed literature, rigorous indexing standards, and detailed metadata availability. Data extraction was conducted in January 2026 using institutional access, capturing the comprehensive publication history of the selected journals from 2012 to 2025. This specific timeframe ensures temporal alignment, as all sampled journals maintained consistent indexing throughout this 14-year window.

To isolate top-tier performance, a multi-stage purposive sampling strategy was applied based on the following criteria:

1. **Subject Classification:** The journal's primary and highest percentile ranking must be strictly within the "Food Science" subject category in Scopus.
2. **Publication Volume:** The journal must contain metadata for at least 1,000 total documents to ensure statistical validity and prevent data skewing during network visualization, in accordance with the dataset size benchmarks established by Rogers et al. (2020).
3. **Geographic Diversity:** Selected journals must be based in different countries within the Asian region to facilitate a valid cross-country comparative design.

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4. **Percentile Ranking:** The final selection isolated the highest-ranked journal from three major distinct scientific publishing hubs in Asia representing different socio-economic frameworks: China, South Korea, and India.

Applying these criteria resulted in a sample of three distinct journals (anonymized using pseudonyms):

- **Journal A (China):** 97th percentile, contributing 4,002 total documents.
- **Journal B (South Korea):** 98th percentile, contributing 1,445 total documents.
- **Journal C (India):** 86th percentile, contributing 6,206 total documents.

The rationale for the sample size lies in a comparative case-study design that, while restricted to three journals, serves as a highly representative proxy for top-tier food science publishing strategies in Asia. These three nations represent the dominant forces in Asian scientific output. Rather than diluting the analysis across hundreds of lower-quartile journals, limiting the sample to these elite benchmarks enables deep, high-resolution structural mapping of the mechanisms underlying top-tier academic positioning. To ensure a comprehensive macro-level evaluation of the journals' overall operations, all document types (including original research articles, review papers, editorials, letters, and notes) were exported and included in the dataset.

3.3 Data Cleaning and Standardization Procedures

To ensure reproducibility, data integrity, and to mitigate potential database reporting errors, the raw metadata exported in .csv format underwent a rigorous three-step data cleaning and normalization process prior to
analysis:

1. **Error Identification and Inconsistency Resolution:** The dataset was screened for incomplete metadata fields, duplicate records caused by system updates, and formatting anomalies. Duplicate entries sharing identical Scopus Document IDs or DOIs were programmatically removed. Missing author institutional affiliation data was manually verified and backfilled via Scopus online queries where applicable.
2. **Author Name Unification:** Inconsistent author indexing, a common issue in large-scale bibliometric datasets, was resolved by cross-checking names against unique Scopus Author ID codes. Author variants (e.g., "Benjakul, S." and "Benjakul, Soottawat") were consolidated under a single standardized nomenclature to prevent artificial deflation of citation and occurrence metrics.
3. **Thesaurus-driven Keyword Normalization:** Semantic redundancies and grammatical variations among keywords were standardized using a custom-built VOSviewer thesaurus file. Singular and plural forms (e.g., "antioxidant" vs. "antioxidants") were merged. Synonyms and spelling variations (e.g., "gut microbiota," "gut microbiome," and "intestinal microbiota") were consolidated under unified semantic descriptors to guarantee the accuracy and cohesion of the co-occurrence networks.

3.4 Bibliometric Mapping and VOSviewer Parameters

The cleaned datasets were processed using VOSviewer (Version 1.6.20) to construct, visualize, and analyze distance-based bibliometric networks (Van Eck & Waltman, 2010). Descriptive statistical metrics (means, medians, modes, and standard errors) were calculated using integrated data tools to summarize authorship characteristics.

To ensure network clarity and reproducibility, the mathematical configurations and extraction parameters within VOSviewer were standardized as follows:

- **Counting Method:** Fractional counting was applied across all network models to equalize the weight of multi-authored papers, ensuring that publications with extensive co-authorship do not artificially distort country collaboration nodes or keyword densities.
- **Keyword Co-occurrence Analysis:** The analysis extracted "All Keywords" (integrating author keywords and Scopus-indexed keywords). The minimum threshold for keyword occurrence was set to n = 10 for

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Journal B due to its smaller sample size, and n = 25 for Journals A and C to filter out peripheral terms and isolate core research clusters.
- **Country Co-authorship Analysis:** The minimum threshold for a country's publication volume was set to n = 5 documents. Countries failing to meet this threshold were excluded from the spatial mapping to emphasize primary international strategic alliances.
- **Network Layout & Clustering:** Association strength was selected as the normalization method for network mapping. The clustering resolution was set to 1.0, with a minimum cluster size of 10 nodes to ensure optimal semantic separation across the visual layouts (Label View and Cluster Density View).

3.5 Methodological Limitations

While methodologically sound, this study carries specific structural boundaries that must be acknowledged:

1. **Single Database Reliance:** The analysis relies exclusively on Scopus metadata. Although Scopus is widely recognized as a premier comprehensive index, it possesses an inherent systemic bias toward English-language publications, meaning localized, non-English food science metrics may be underrepresented.
2. **Sample Size Boundaries:** The comparative framework is limited to three high-performing journals representing three distinct countries. While these serve as excellent benchmarks for top-tier national publishing strategies, the findings cannot be generalized to represent the entire, diverse landscape of lower-tier or open-access regional journals across the broader Asian continent.

4. Experimental Results

This section presents the empirical findings derived from the bibliometric modeling of the three selected journals. The analytical spectrum is structured into three interconnected dimensions: first, the topological mapping of prominent keywords and research themes; second, the structural spatiality of international country co-authorship networks; and third, the strategic configuration of institutional backing and top authorship profiles.

4.1 Prominent Keywords and Research Themes

The keyword co-occurrence networks generated via VOSviewer reveal that while all three selected journals are structurally positioned within the broader discipline of food science, they employ distinct, country-specific thematic specializations to maintain their high Scopus percentile rankings. These patterns reflect deliberate editorial strategies tailored to specific segments of the scientific market.

For Journal A (China, 97th percentile), the structural topology of the network shown in Figure 1 indicates a profound alignment with macro-level agricultural productivity and genetic biotechnology. The absolute dominance of nodes such as “wheat,” “rice,” “maize,” and “gene expression” demonstrates that the journal’s editorial strategy is designed to capture high-impact research addressing national food security and functional crop genetics. Rather than focusing on post-harvest processing, Journal A secures its top-quartile status by indexing molecular and biotechnological advancements (e.g., “QTL mapping,” “genetic diversity”). This thematic concentration implies a strategic positioning that acts as an international vehicle for China’s heavily funded state agricultural initiatives, translating localized field crops into global high-citation biotechnological discourse.

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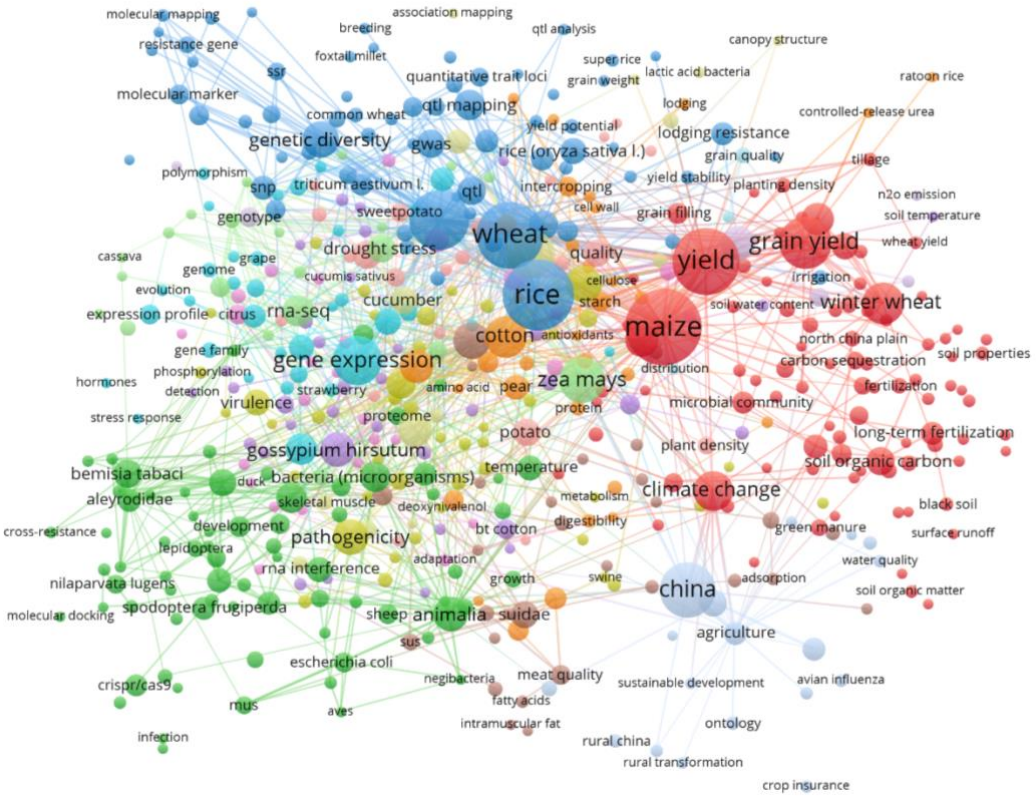


Figure 1. Visualization map of keyword co-occurrence for *Journal A* (China).

In contrast, Journal B (South Korea, 98th percentile) displays a highly specialized, niche editorial trajectory focusing almost exclusively on animal science, gut health, and metabolic biochemistry (Figure 2). The prominent clustering of “pig,” “cattle,” “growth performance,” and “microbiota” indicates that this journal does not attempt to cover general food products. Instead, its strategic positioning is anchored in the lucrative and high-citation-yielding sectors of animal biotechnology and preventive health (e.g., “inflammation,” “lipid metabolism,” “probiotics”). By limiting its scope to these biomedical-adjacent domains, Journal B efficiently maximizes its citation velocity per article, which directly underpins its exceptional 98th percentile rank despite having the lowest total document volume (1,445 items) among the sampled journals.

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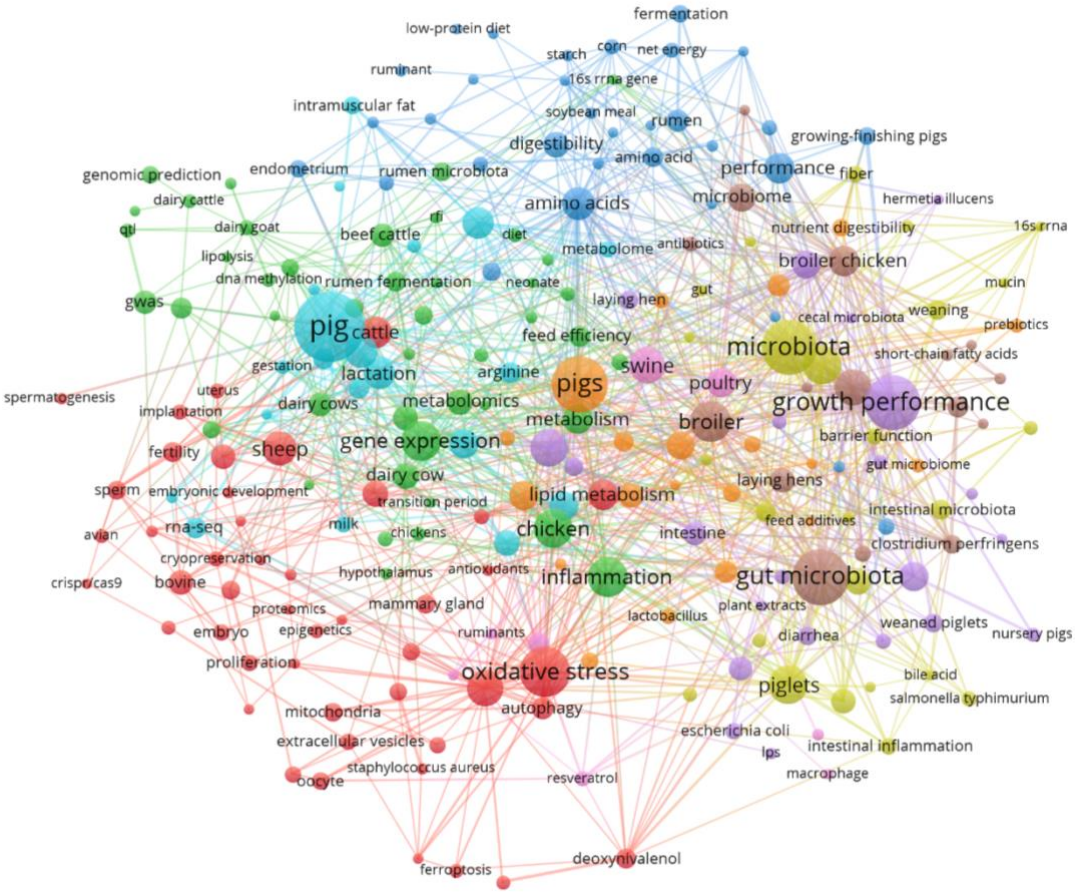


Figure 2. Visualization map of keyword co-occurrence for *Journal B* (South Korea).

Journal C (India, 86th percentile) exhibits a starkly different structural topology, operating as a comprehensive, multi-faceted repository for classical, applied food technology (Figure 3). The central position of keywords such as “food products,” “antioxidants,” “proteins,” “storage,” and “shelf life” highlights an editorial strategy that prioritizes downstream, practical industrial applications, such as formulation, preservation, and chemical characterization (e.g., “drying,” “packaging,” “sensory properties”). While this broad-spectrum approach attracts a massive volume of submissions, resulting in a dataset of 6,206 items, it leads to a highly decentralized keyword network. This implies that Journal C values regional scientific consolidation and practical industry relevance over the ultra-specialized, biotechnology-driven fields that typically command higher citation metrics in elite database tiers.

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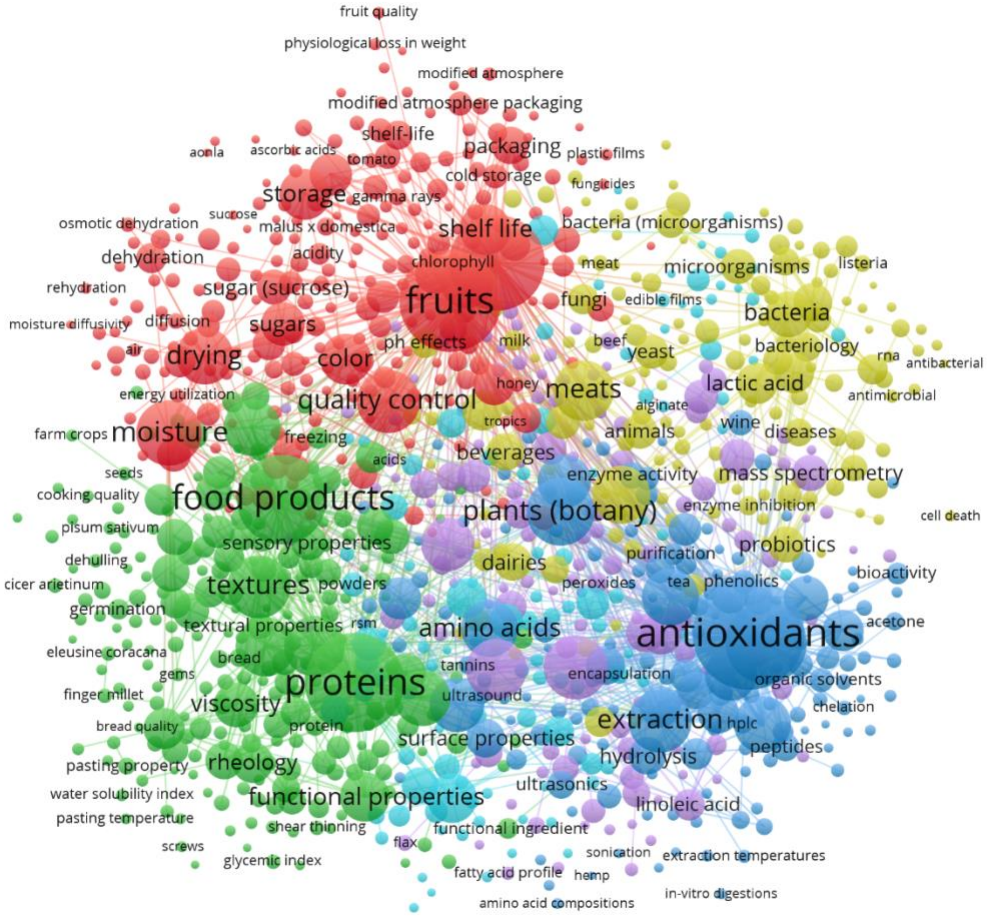


Figure 3. Visualization map of keyword co-occurrence for *Journal C* (India).

4.2 International Collaboration Networks

The spatial configurations of the country co-authorship networks unveil the geopolitical underpinnings and strategic alliances that drive the visibility of these journals.

Journal A (China) exhibits an asymmetrical globalization pattern (Figure 4). While it maintains strong collaborative pipelines with Europe and Australia, its network structure shows a conspicuous structural distance from the United States. This topology implies that the journal serves as a key node in China's independent scientific ecosystem, relying on strong state funding to attract regional Asian and European co-authorship while minimizing reliance on North American research networks, a clear reflection of modern geopolitical dynamics influencing scholarly publishing patterns.

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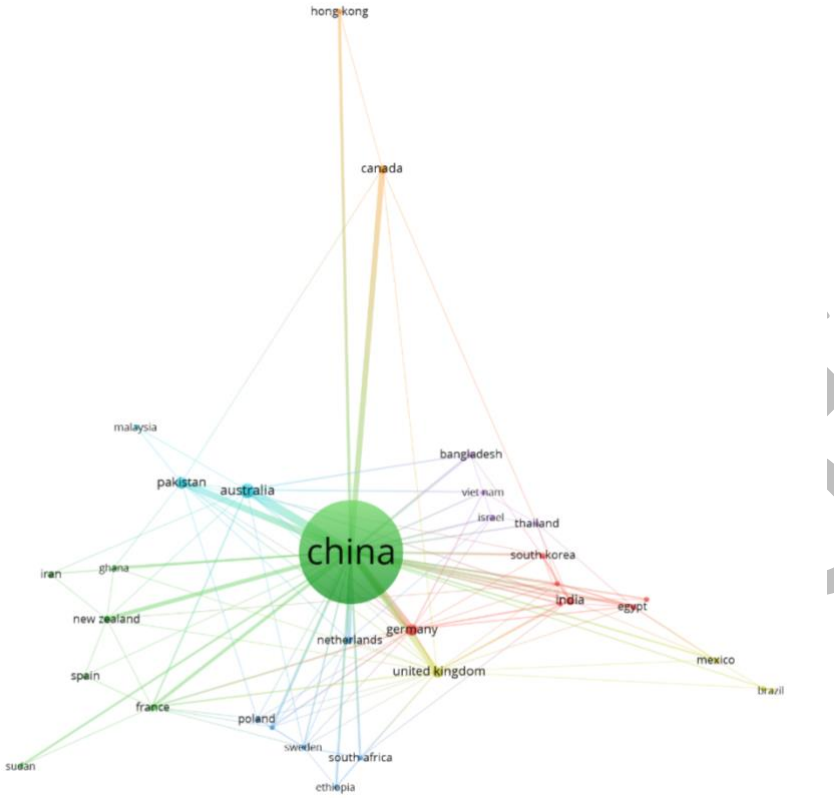


Figure 4. Country co-authorship network for *Journal A* (China).

Journal B (South Korea), conversely, leverages an elite bilateral consolidation model (Figure 5). Its collaboration network is strictly dominated by thick, high-weight links connecting South Korea, China, and the United States. This structural pattern indicates a deliberate editorial positioning designed to bridge major global research superpowers. By embedding itself deeply into the US-China-Korea research nexus, Journal B secures international co-authored papers from highly funded laboratories, which naturally translates into elevated citation rates and global prestige.

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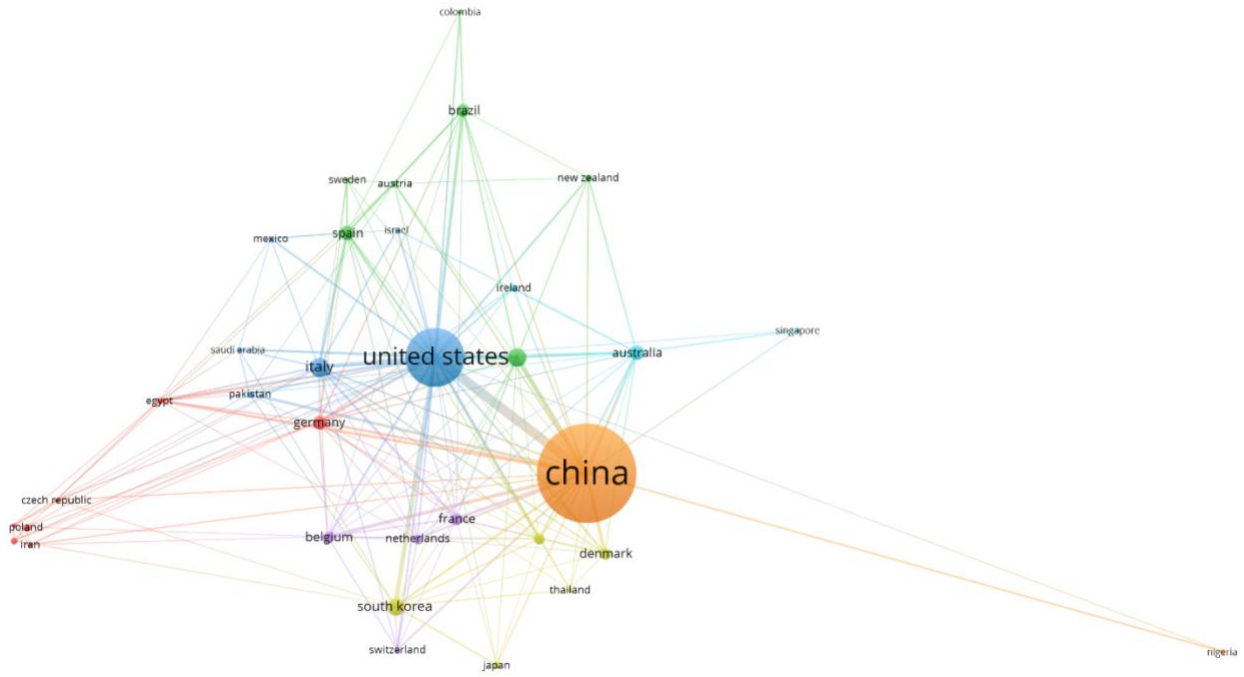


Figure 5. Country co-authorship network for *Journal B* (South Korea).

Journal C (India) displays a highly decentralized, South-South collaborative topology (Figure 6). India functions as a central hub, but the network branches out horizontally into diverse regional clusters across Southeast Asia (e.g., Thailand, Malaysia), the Middle East (e.g., Iran, Saudi Arabia), and South America (e.g., Brazil). This unique pattern implies that Journal C acts as an open, democratic platform for emerging economies. Rather than restricting its pages to elite Western collaborations, its strategic positioning favors global academic inclusivity, cementing its role as an essential technological archive for the developing world.

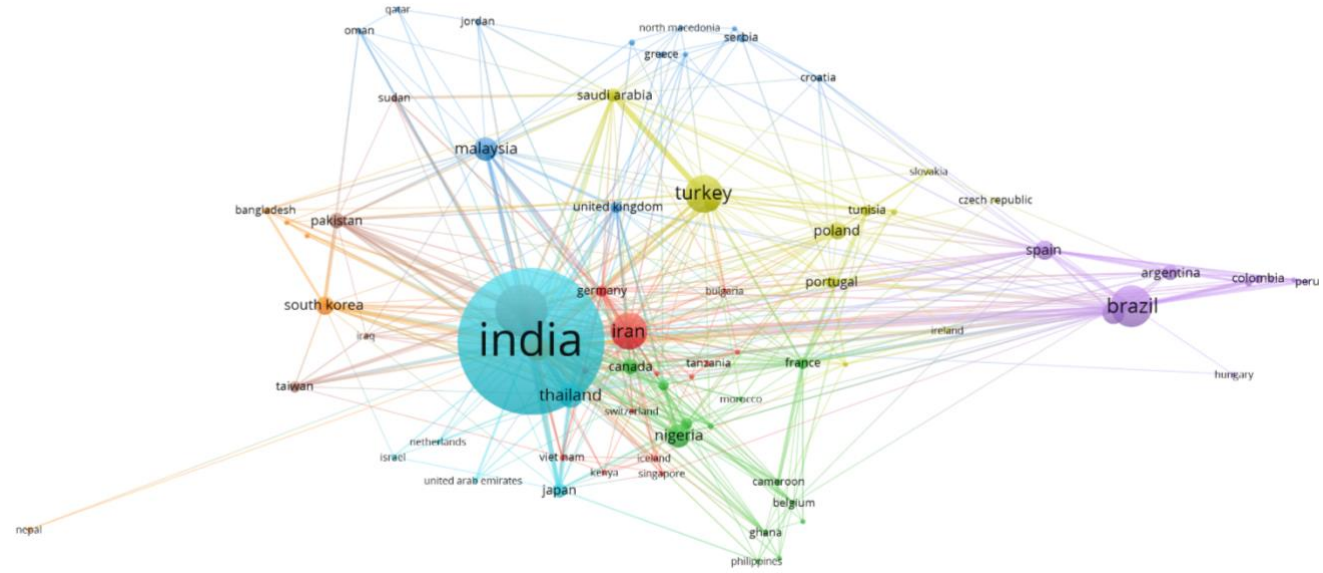


Figure 6. Country co-authorship network for *Journal C* (India).

4.3 Authorship Profile and Institutional Concentration

Table 1 reveals profound differences in how these journals manage author concentration and leverage institutional backing to sustain their scientific influence.

In Journal A (China), a severe pattern of "institutional captivity" is observed. Four out of the top five most productive authors are exclusively affiliated with a single institution: the Chinese Academy of Agricultural Sciences (CAAS). This extreme concentration suggests that Journal A functions significantly as an institutional house-journal for China's premier agricultural research body. While this model guarantees a steady influx of high-quality, heavily funded papers (as evidenced by the authors' substantial H-indexes ranging from 27 to 64), it poses a strategic risk regarding editorial independence and limits the diversification of global perspectives within the journal's core community.

Journal B (South Korea) presents a contrasting strategy of "global talent recruitment." Despite being a South Korean journal, its top five contributors are entirely dominated by elite researchers from China and the United States, such as Wu G. from Texas A&M University (H-index: 135, 74,320 citations) and Loor J.J. from the University of Illinois (H-index: 71). This remarkable finding indicates an editorial strategy that successfully bypasses localized institutional constraints to capture global scientific leaders. By publishing the work of world-class, highly-cited researchers, Journal B systematically imports international authority, which accelerates its ascent into the elite tiers of the Scopus database.

Journal C (India) strikes a hybrid balance between localized institutional backing and regional dominance. The journal's absolute top contributor is an international author from Thailand (Benjakul S. from Prince of Songkla University, boasting 43 appearances, 57,741 citations, and an H-index of 113), while the remaining top slots are occupied by national agricultural and dairy research institutes within India. This configuration demonstrates that while Journal C relies on India's domestic institutional core (such as the ICAR-National Dairy Research Institute) to maintain volume, it has successfully established itself as the premier, authoritative publication venue for top-tier food science researchers across the entire Southeast Asian and South Asian regions.

Table 1. Authorship profile of the most occurrences contributors in each journal.

Rank	Author	Institution	Country	Number of appearances	Authors' Citation in Scopus	H-index
Journal A (China) 4002 Documents						
1.	Wu, Kongming	Chinese Academy of Agricultural Sciences	China	20	16,026	64
2.	Peng, Deliang	Chinese Academy of Agricultural Sciences	China	19	3,178	29
3.	Huang, Wenkun	Chinese Academy of Agricultural Sciences	China	15	2,263	27
4.	Li, Shaokun	Chinese Academy of Agricultural Sciences	China	15	6,781	47
5.	Wei, Haiyan	Yangzhou University	China	15	3,699	31
Journal B (South Korea) 1,445 Documents						
1.	Guo, Yuming	China Agricultural University	China	32	11,259	59
2.	Loor, Juan J.	University of Illinois Urbana-Champaign	United States	30	21,335	71
3.	Wu, Gaoyao Yao	Texas A&M University, College Station	United States	24	74,320	135

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Rank	Author	Institution	Country	Number of appearances	Authors' Citation in Scopus	H-index
4.	Chen, Daiwen	Sichuan Agricultural University	China	23	15,232	62
5.	Yu, Bing	Ministry of Agriculture of the People's Republic of China	China	23	13,149	59
Journal C (India) 6,206 Documents						
1.	Benjakul, Soottawat	Prince of Songkla University	Thailand	43	57,741	113
2.	Singh, Ashish Kumar	ICAR - National Dairy Research Institute	India	37	4,129	33
3.	Singh, Narpinder	Graphic Era Deemed to be University	India	34	24,932	86
4.	Arora, Sumit	ICAR - National Dairy Research Institute	India	30	3,393	29
5.	Kaur, Amritpal	Guru Nanak Dev University	India	27	10,971	55

The systematic alignment outlined in Table 1 demonstrates that elite journal status is not dependent on local academic insularity, but rather on the capacity to cross-nationally capture prolific international authors, as specifically exemplified by Journal B's reliance on non-domestic global scientific leaders to drive database metrics.

5. Discussion

5.1 Thematic Stratification and Scopus Quartile Dynamics

The empirical findings of this study demonstrate that the performance of Asia-based food science journals within the Scopus database is structurally stratified based on their thematic positioning. High-percentile journals, specifically Journal A (97th percentile) and Journal B (98th percentile), secure their elite standings by systematically aligning their scopes with cutting-edge, upstream biotechnological and molecular domains, such as gene expression and metabolic biochemistry. Conversely, journals positioned in lower, yet highly stable percentiles, such as Journal C (86th percentile), deliberately prioritize downstream, applied food technologies like shelf-life preservation and product formulation.

This clear divergence challenges the uniform growth narrative popularized by Thelwall and Sud (2022), who argued that the expansion of Asian research output is a homogeneous wave driven purely by volume. Instead, our data proves that Asian journal success is highly differentiated. Elite status (Q1, >95th percentile) requires a strict focus on high-velocity citation fields (biotechnology and genetics), which naturally generate higher cross-disciplinary citations. This aligns directly with the observations of Taş et al. (2023), who noted that journals indexed in top database quartiles consistently exhibit a higher concentration of molecular and advanced statistical studies compared to their lower-quartile counterparts, which remain focused on localized descriptive methodologies.

5.2 Collaboration Topologies: Global Prestige vs. Regional Hubs

The analysis of co-authorship networks offers critical insights into how international relations shape scholarly publishing, supporting the conceptual framework that political power and funding dictate database performance (Damaševičius & Zailskaite-Jakšte, 2023). The contrasting configurations of Journals B and C illuminate two distinct pathways to journal development. Journal B's strategy of embedding itself into an elite bilateral nexus with the United States and China confirms the assertions of Chankseliani et al. (2021), who argued that global scientific prestige is heavily mediated by integration with established Western research superpowers.

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In contrast, Journal C's decentralized, South-South collaboration network demonstrates an alternative model of "regional scientific consolidation." By serving as a critical platform for authors across Thailand, Iran, and Brazil, Journal C effectively counters the systemic Western bias inherent in global databases noted by Asubiaro et al. (2024). This finding expands the work of Maporn et al. (2024), who established that Asian journals possess unique location-based collaborative networks. Our study adds a crucial strategic dimension to this notion: while elite internationalization (Journal B) maximizes impact metrics, regional consolidation (Journal C) fulfills a vital developmental role by archiving applied science tailored to the socio-economic realities of emerging economies.

5.3 Institutional Captivity and the Paradox of Author Concentration

The authorship profiles uncovered in this study expose a fundamental paradox regarding institutional concentration and journal independence. Journal A's heavy reliance on the Chinese Academy of Agricultural Sciences (CAAS) represents a classic state-backed publishing model. While this "institutional captivity" insulates the journal from volume fluctuations and guarantees high-quality domestic submissions, it risks turning the journal into an insular echoing chamber, validating the warnings of Helgesson et al. (2022) regarding the long-term normative dangers of high insider publishing rates.

Conversely, Journal B's ability to recruit top-tier global talent (e.g., prolific US and Chinese authors) without localized institutional constraints represents the ideal trajectory for achieving pure international status. This strategic mechanism explains the citation advantage discussed by Croft and Sack (2022), where the systematic acquisition of high-H-index global authors acts as a direct predictor of a journal's future CiteScore acceleration. Journal C presents a sustainable middle ground, combining a solid domestic foundation with a powerful regional draw, exemplified by its top Thai contributor, suggesting that developing journals can maintain both high volume and regional authority by positioning themselves as geographic champions.

5.4 Strategic Roadmaps for Policy and Management

From a research management perspective, these findings provide university administrators and science policymakers with clear, empirical templates for journal development, directly addressing the core research questions posed in this study. The data indicate that there is no singular "correct" model for operating a successful Scopus-indexed journal.

- If the primary strategic goal of an institution is to maximize global scientific prestige and achieve elite top-quartile metric rankings, management must enforce strict editorial filters that prioritize upstream biotechnological research and actively recruit high-impact international co-authorship networks (The Journal B model).
- If the strategic goal is national consolidation and regional utility, the journal should adopt a broad-spectrum, applied science scope that welcomes diverse South-South collaborations, focusing on practical industry solutions over elite metrics (The Journal C model).

Policies must therefore move away from generic database mandates and instead align institutional budgets with the specific, contextualized strategic positioning that the journal is intended to fulfill within the global scientific ecosystem.

6. Conclusion

This study systematically evaluated the macro-level characteristics and strategic positioning of leading Asia-based food science journals indexed in Scopus, successfully addressing the core objectives of mapping thematic landscapes, authorship configurations, and geo-collaborative structures across different database percentiles. Shifting the analytical lens from aggregated country outputs to a granular, journal-level strategic perspective, the empirical evidence demonstrates that high-performing Asian journals are not operating under a uniform growth trajectory. Instead, they navigate highly differentiated, country-specific pathways to maintain and optimize their global and regional influence.

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The primary new knowledge generated by this research is the identification of a distinct thematic and network bifurcation that dictates a journal's database standing. Elite, top-percentile journals (such as the Chinese and South Korean cases) secure their international prestige by restricting their scopes to upstream, high-citation-velocity fields, such as crop genetics, animal science, and metabolic biotechnology, while actively embedding their editorial cores within high-weight bilateral alliances with major scientific superpowers like the United States. Conversely, stable, mid-to-high percentile journals (such as the Indian case) strategically trade elite metric acceleration for regional scientific consolidation, serving as expansive repositories for downstream, applied food technologies and practical industrial solutions that foster inclusive, South-South collaborative networks across emerging economies. Furthermore, the study uncovers diverse authorship recruitment paradigms, ranging from state-backed institutional concentration to decentralized international talent acquisitions.

Beyond the specific case of food science publishing in Asia, the broader relevance of these findings offers a universal, data-driven template for research managers, university administrators, and science policymakers worldwide. It underscores that academic journal development must reject generic, metric-only evaluation mandates. Instead, institutions must strategically align their budgetary allocations and editorial guidelines with the specific socio-economic and scientific positioning that the journal is contextually designed to fulfill, whether that target is elite global integration or applied regional utility. Regarding future research directions, while this study provides a high-resolution benchmark framework, it is bounded by its reliance on Scopus metadata and a focused three-journal sample size. To extend the scholarly utility of this journal-level strategic perspective, future scientometric research should expand this comparative methodology across multi-database environments (integrating Web of Science and Dimensions) and test the applicability of these thematic and collaborative paradigms within other rapidly evolving STEM disciplines across the global South.

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CRediT authorship contribution statement

Itsara Sae-ung: Conceptualization, Methodology, Formal analysis, Writing – original draft, Project administration. **Jirarat Puseerit:** Validation, Investigation, Resources, Writing – review & editing. **Panyawat Arsapar:** Software, Data curation, Visualization. **Sattra Maporn:** Conceptualization, Methodology, Validation, Supervision, Writing – review & editing.

Declaration of AI Use

This manuscript includes content generated or assisted by artificial intelligence (AI) tools. Specifically, ChatGPT (OpenAI) was used to support tasks such as language editing and paraphrasing to improve clarity and readability. All AI-generated content was critically reviewed and verified by the authors to ensure accuracy, originality, and compliance with ethical standards.

Declaration of Interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data Availability

The data that support the findings of this study are available from the Scopus database (https://www.scopus.com). Restrictions apply to the availability of these data, which were used under license for the current study, and so are not publicly available. Data are, however, available from the authors upon reasonable request and with permission of Scopus.

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