SWEET POTATO (*Ipomoea batatas*) IN POULTRY NUTRITION: A BIBLIOMETRIC ANALYSIS (1962–2025)

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ABSTRACT

This study provides a comprehensive bibliometric analysis of scientific production on the use of sweet potato (*Ipomoea batatas*) in poultry nutrition, with particular emphasis on its relevance for tropical and subtropical production systems. Records were retrieved from the Scopus and Web of Science databases on September 28, 2025, using a title-restricted search strategy, and the resulting metadata were analyzed in R using the bibliometrix package. A total of 50 documents published between 1962 and 2025 were retained after screening, cleaning, and duplicate removal. The dataset revealed a negative annual growth rate (−2.18%), an average document age of 19.8 years, 5.1 citations per document, and limited international co-authorship (8%). Original research articles predominated (90%), whereas reviews and technical notes were scarce. Scientific production was concentrated in tropical and subtropical countries, especially Nigeria, Indonesia, China, Brazil, and Australia, reflecting the regional availability of sweet potato and the applied nature of the topic. Studies on performance and digestibility still prevail in the literature, but recent thematic shifts indicate growing interest in functional properties, gut health, antioxidant effects, and bioactive compounds, particularly from purple sweet potato. Despite its potential as a sustainable alternative feed ingredient, the field remains fragmented and methodologically heterogeneous. Greater international collaboration, harmonized protocols, and quantitative integrative approaches such as meta-analyses and multicenter trials are needed to improve the robustness and applicability of evidence on sweet potato in poultry production systems.

Keywords: Poultry production. Bibliometrics. Bioactive compounds. Broiler diets. Alternative ingredients. Sustainability.

INTRODUCTION

Sweet potato (*Ipomoea batatas* L.) is recognized as a crop of high nutritional value and functional potential, rich in complex carbohydrates, and bioactive compounds (flavonoids and phenolic acids) that extend beyond its traditional role as an energy source (Alam, 2021).

The increasing volatility of global corn prices, coupled with the growing demand for sustainable and locally available feed ingredients, has intensified the search for alternative energy sources in poultry nutrition. In this context, sweet potato emerges as a strategic ingredient due to its adaptability to tropical environments, high biomass yield, and potential to reduce feed costs in regions where conventional grains are limited or expensive.

Although its use in human nutrition has historically dominated scientific attention, experimental studies have evaluated its application as an alternative ingredient in poultry diets, particularly in response to increasing pressure to identify substitutes for corn and to develop more sustainable production systems (Khan, 2017).

In poultry production, the partial replacement of corn with sweet potato flour, tubers, leaves, or by-products has been investigated with respect to feed intake, growth performance, feed conversion, carcass traits, nutrient utilization, and metabolic responses. Reported outcomes vary according to the cultivar, plant fraction, processing method, inclusion level, and poultry species evaluated (Afolayan et al., 2012; Agwunobi, 1993, 1999; Ayuk, 2004; Ayuk; Essien, 2009; Maphosa et al., 2003; Ravindran; Sivakanesan, 1996; Teguia et al., 1993, 1997; Tiambo et al., 2016). The nutritional value of sweet potato is also influenced by processing conditions, including drying, cooking, fermentation, and heat treatment, which may affect starch availability, digestibility, antinutritional factors, and the utilization of nutrients by poultry (Bryan; Anderson, 2011; Panigrahi et al., 1996; Szylit et al., 1978; Zhang et al., 2019). The use of exogenous enzymes has also been investigated as a strategy to improve the utilization of sweet potato meal and to mitigate limitations associated with its composition (Bahule et al., 2018; Mmereole, 2009). In addition to productive responses, the inclusion of sweet potato flour has also been associated with changes in the development of the digestive system of broilers (Nunes et al., 2011).

Despite these individual studies, a consolidated overview of the scientific evolution regarding the use of sweet potato in poultry nutrition has not yet been clearly established. Bibliometrics has emerged as a strategic tool for mapping trends, key actors, collaboration networks, and thematic gaps within scientific fields that remain fragmented. In this context, bibliometric reviews related to sweet potato research have already been conducted in other domains; for example, an analysis of the spatial and temporal distribution of publications on sweet potato (1993–2022) identified research hotspots and emerging directions in general sweet potato production studies (Meng et al., 2024).

The present bibliometric study aims to address this gap within the context of poultry nutrition through a systematic search of the Scopus and Web of Science databases, with metadata extraction and integration performed using the bibliometrix package in R. This study is particularly relevant for tropical and subtropical production systems, where the availability of alternative feed resources such as sweet potato may contribute to reducing dependency on conventional grains and improving the sustainability of poultry production. By identifying global research patterns and regional gaps, this study supports the development of more efficient and locally adapted feeding strategies.

METHODOLOGY

Study design

The present bibliometric study was designed to map and analyze the scientific production related to the use of sweet potato (*Ipomoea batatas*) in the feeding of poultry species of production interest. Searches were conducted in the Scopus database (Elsevier) and the Web of Science Core Collection (Clarivate), both accessed on September 28, 2025, through the CAPES Journal Portal using the institutional access of the Federal University of Pelotas.

Search strategy and data extraction

A Boolean search strategy was applied, restricting the query to document titles in both databases. The search string used was: (“sweet potato*” OR “*Ipomoea batatas*”) AND (poultry OR broiler* OR chicken* OR hen* OR quail* OR layer* OR “domestic birds” OR “avian nutrition”). The study selection process is summarized in Figure 1, which presents a flow

diagram following PRISMA guidelines (Moher et al., 2009), detailing the number of records identified and screened at each stage of the systematic review.

Studies were included when they reported results related to the use of sweet potato tubers in poultry nutrition or any other plant-derived component, such as leaves, residues, extracts, or by-products from sweet potato production. The extracted metadata comprised authors, author keywords, Keywords Plus, authors' addresses and affiliations, abstract, ISSN, source title, language, citations, title, document type, year of publication, corresponding author, institution, and country.

The files exported from Scopus and Web of Science were merged using routines from the bibliometrix package. Some metadata fields, such as cited references and scientific categories, were not retained because of differences in export formats and limitations associated with merging the databases. The bibliometrix package (Aria; Cuccurullo, 2017), implemented in R software (R Core Team, 2025), was used for data analysis, as well as for the construction, visualization, and exploration of bibliometric networks and graphs.

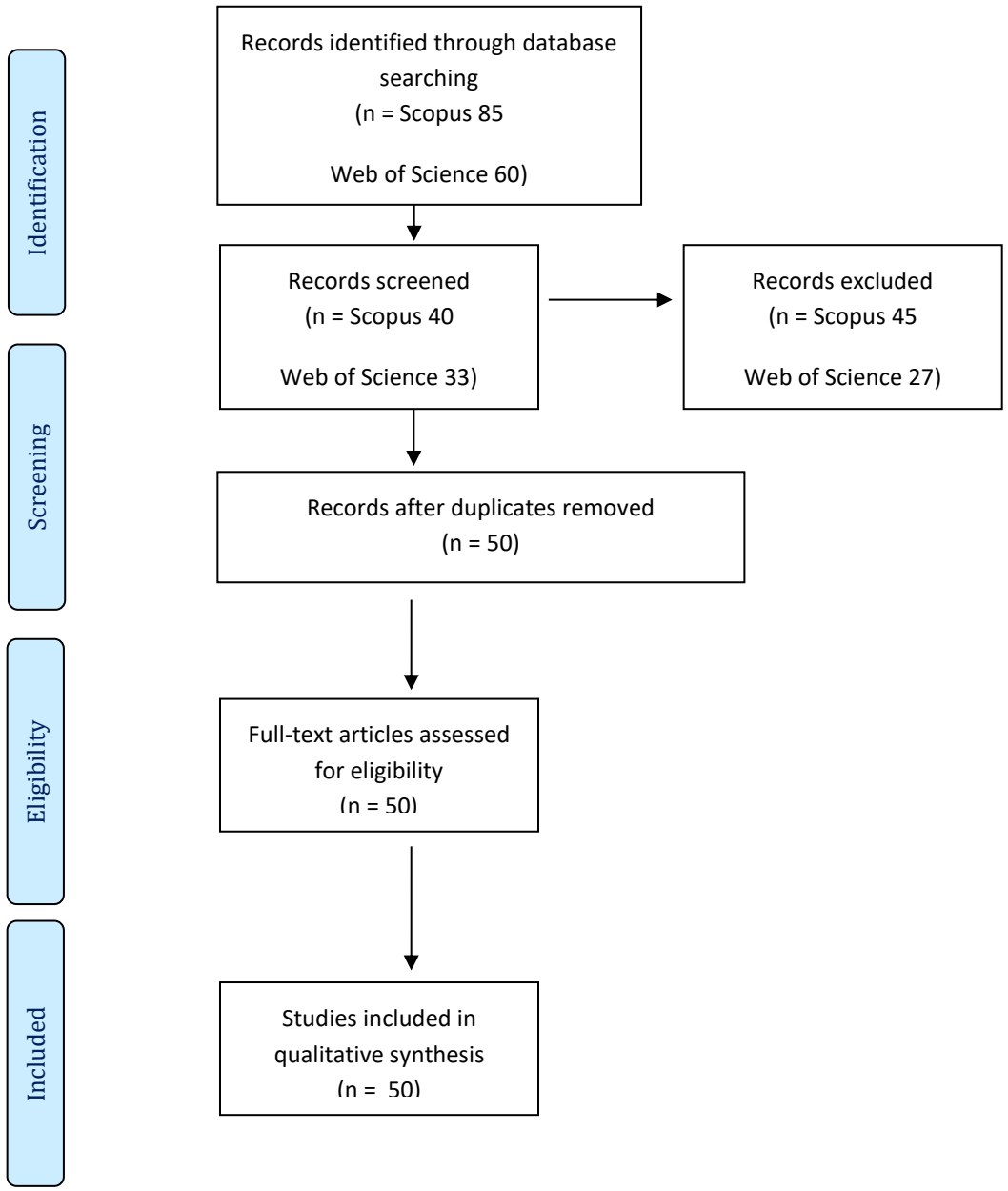


Figure 1 - Flow diagram following PRISMA guidelines illustrating the total number of records identified at each stage of the study selection process in the systematic review on the use of sweet potato (*Ipomoea batatas*) in poultry nutrition.

RESULTS

Main information

The initial search identified 85 records in Scopus and 60 in Web of Science. During screening and data cleaning, 45 Scopus records and 27 Web of Science records were excluded because they did not meet the scope of the study or represented off-topic material. After merging the

datasets, 23 duplicate records were removed, resulting in a final corpus of 50 documents for bibliometric analysis.

The final dataset covered publications from 1962 to 2025 and was distributed across 25 sources (Table 1). A negative annual growth rate of −2.18% was observed, indicating that scientific production has not followed a sustained upward trajectory over time. The average age of documents was 19.8 years, which shows that a considerable portion of the literature is relatively old, and the mean citation rate was 5.1 citations per document.

Regarding document content, 105 occurrences of Keywords Plus and 150 author-provided keywords were identified, indicating thematic diversity but also terminological dispersion. The 50 selected documents involved 181 authors, six single-authored papers, 4.18 co-authors per document, and only 8% international co-authorship.

Table 1 - Main bibliometric information of the dataset.

Item	Result
Time span	1962–2025
Sources (journals, books, etc.)	25
Documents	50
Annual growth rate (%)	−2.18
Average age of documents	19.8
Average citations per document	5.1
Keywords Plus	105
Author keywords	150
Authors	181
Single-authored documents	6
Co-authors per document	4.18
International co-authorship (%)	8

Document types and sources

Original research articles were the dominant document type, accounting for 45 of the 50 records (90%). Conference abstracts represented 6% (n= 3), whereas technical notes and literature reviews each accounted for only one document (2%) (Table 2). This pattern indicates that the field is mainly driven by primary experimental studies, with limited production of integrative syntheses and technical recommendation papers.

Table 2 - Distribution of document types published on sweet potato in poultry nutrition.

Document type	Total publications	Percentage (%)
Articles	45	90
Abstracts	3	6
Technical notes	1	2
Reviews	1	2
Total	50	100

Temporal evolution of publications and citations

The temporal distribution of publications (Figure 2) reveals a research trajectory that began in the 1960s with pioneering studies by Yoshida et al., who evaluated the nutritive value of sweet potato as a carbohydrate source for poultry (Yoshida et al., 1962a, 1962b). After this early phase, scientific production remained sparse for several decades, indicating that the topic did not consolidate as a continuous line of research during that period.

From the 2000s onward, the number of publications increased more noticeably, accompanying the broader search for sustainable alternatives in feed formulation and the valorization of agro-industrial by-products. More recently, research has expanded beyond the replacement of corn to include the use of purple sweet potato and its bioactive compounds such as anthocyanins and polysaccharides, in relation to heat-stress responses, intestinal health, egg quality, and gut microbiota (Fang et al., 2023; Hanieh et al., 2010; Nasoetion et al., 2019; Oluwabiyi; Song, 2024; Widiastuti et al., 2024).

The citation profile followed a related but not identical pattern. The period from 1962 to 1990 was marked by few publications and low impact; from 1990 to 2010, both output and citations increased moderately, though with strong oscillation; and from 2010 onward, citation intensity increased, reaching its highest values in recent years. Taken together, the publication and citation curves indicate that the field remains relatively small but has experienced renewed visibility in the last decade.

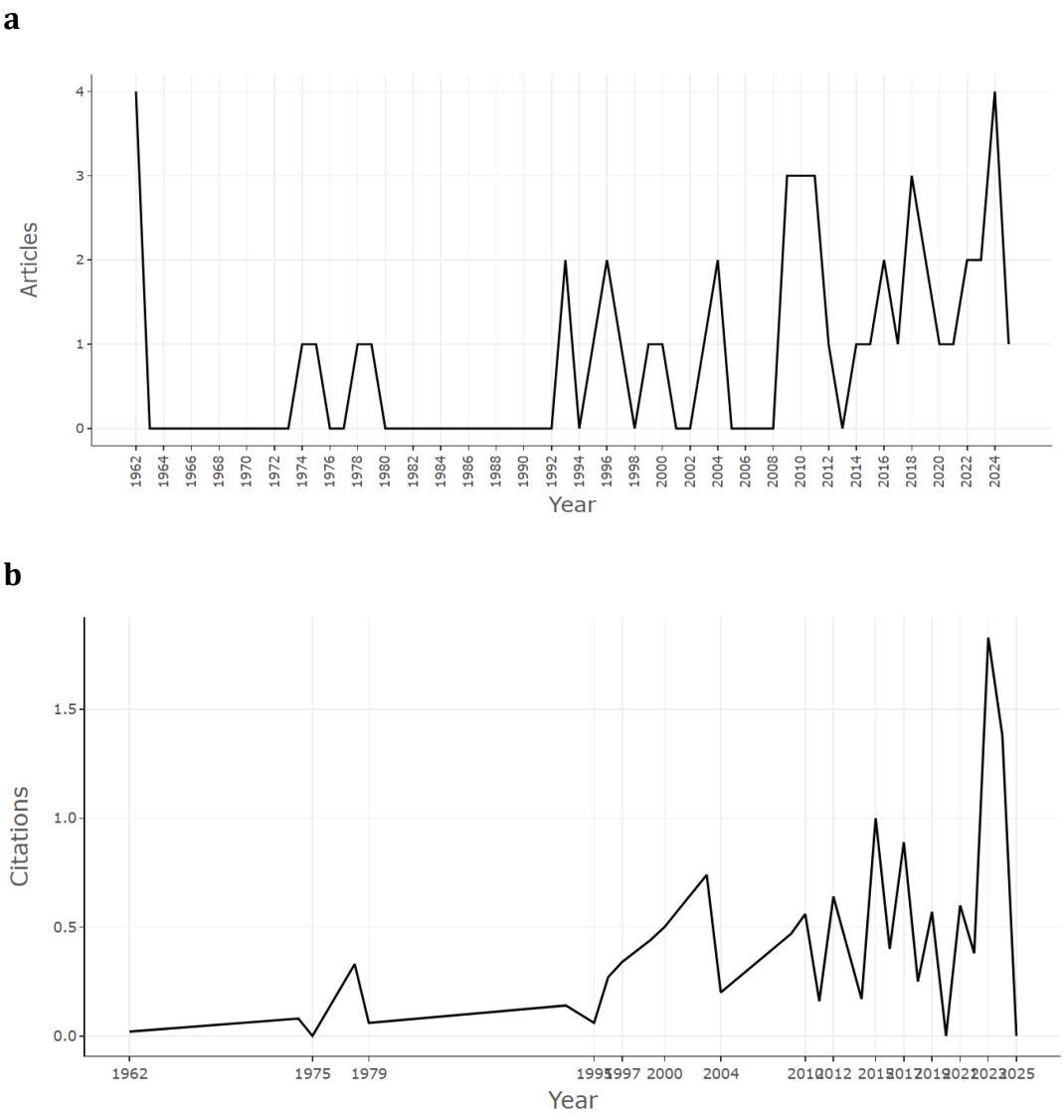


Figure 2 - Temporal evolution of the literature on sweet potato in poultry nutrition. (a) Annual scientific production. (b) Average citations per year.

Authors, institutions, and journals

The three-field plot (Figure 3) highlights the relationships among authors, institutions, and countries involved in publications on sweet potato in poultry nutrition. Delta State University (Nigeria), the University of Adelaide (Australia), and Universitas Diponegoro (Indonesia) stood out as relevant institutional hubs. Authors such as Pandi, Teguia and Obakanurhe showed clear associations with these institutions and contributed substantially to the scientific output of their countries (Obakanurhe et al., 2025; Pandi et al., 2016, 2018; Teguia et al., 1993, 1997).

The most active publication sources (Figure 4) were Livestock Research for Rural Development, Animal Feed Science and Technology, Poultry Science, and Agricultural and Biological Chemistry. According to Bradford's law, these journals constituted the core source set for the field, followed by a larger dispersion zone composed of journals with fewer contributions. This indicates that, although research is spread across several outlets, it remains concentrated in a small group of specialized journals in animal nutrition and poultry science.

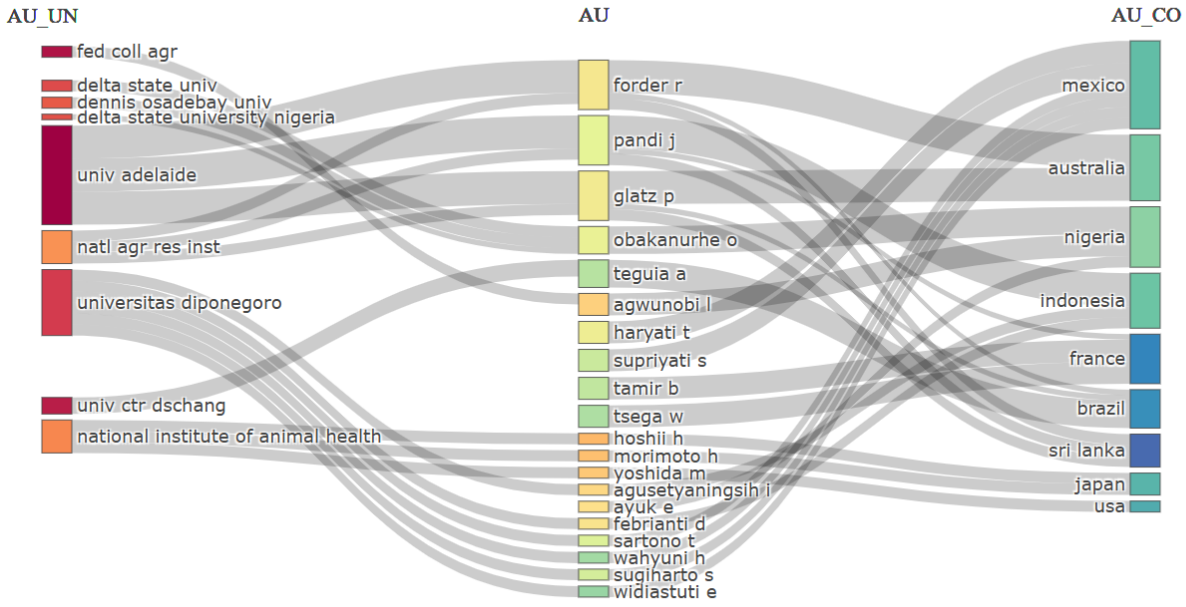


Figure 3 - Three-field plot showing the connections among authors, institutions, and countries in the selected corpus.

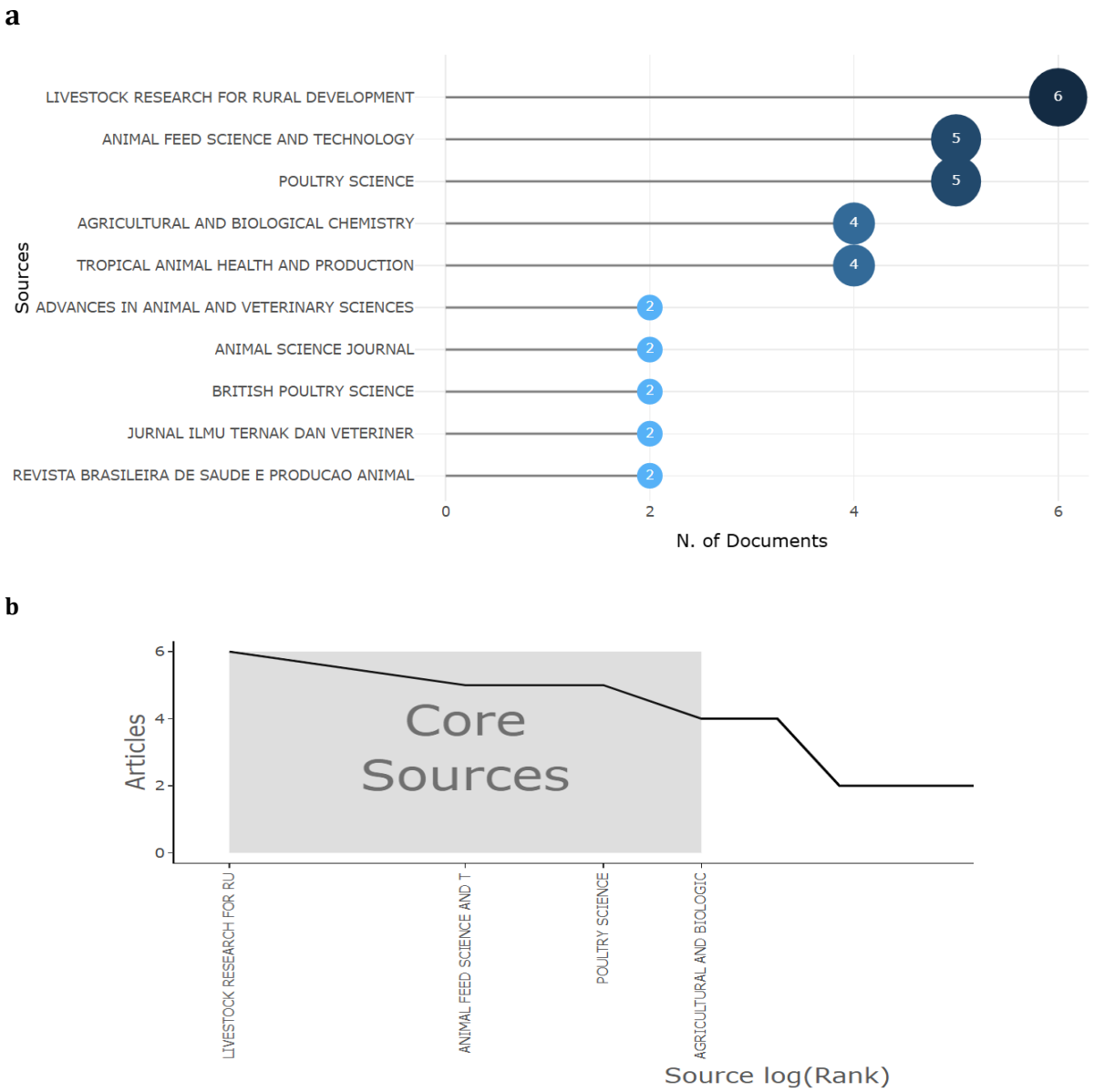


Figure 4 - Source structure of the field. (a) Most relevant source titles according to number of publications. (b) Core and dispersion zones according to Bradford's Law.

Conceptual structure of the field

The co-occurrence analysis of author-provided keywords (Figure 5) identified "sweet potato" as the central node of the network, strongly linked to "performance," indicating that most studies were designed to assess productive responses. Around this central core, clusters were

formed around terms such as poultry, broilers, chicken, carcass, nutrients, supplementation, energy source, fermentation, oligosaccharides, microflora, and colonization.

These keyword groupings demonstrate that the literature combines classical studies focused on ingredient substitution and energy evaluation with more recent work on functional properties and intestinal health. This conceptual evolution suggests a shift from a predominantly conventional nutritional approach toward a broader view that includes health-promoting compounds and product quality.

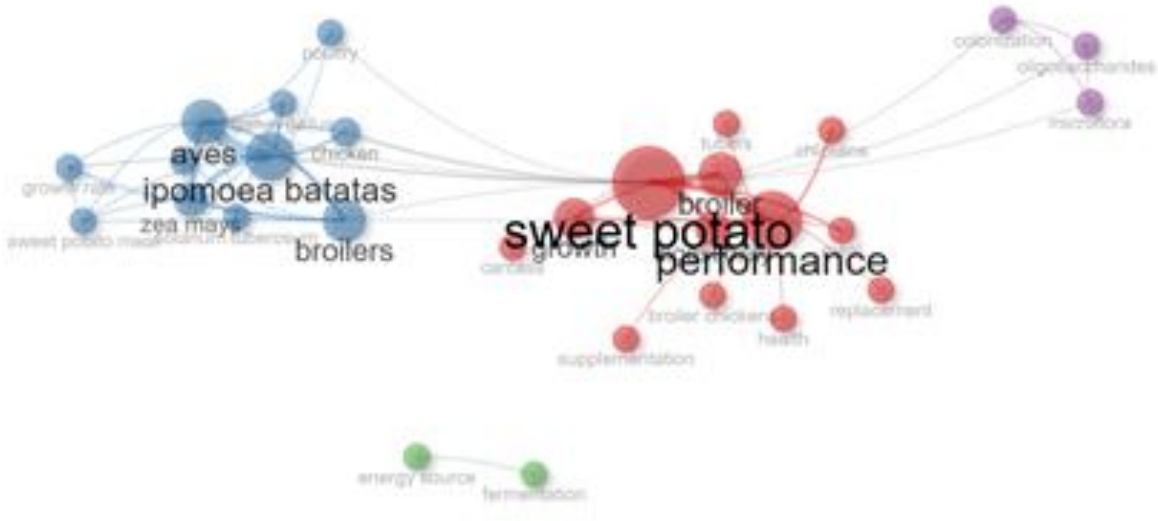


Figure 5 - Network visualization of author keywords showing the main thematic clusters in the literature.

Geographical distribution and country performance

The geographical distribution of publications (Figure 6) shows that research on sweet potato in poultry nutrition is strongly concentrated in tropical and subtropical countries where sweet potato cultivation is widespread. Nigeria, China, Australia, Indonesia, Brazil, Japan, and Sri Lanka were among the most visible contributors. This distribution reflects the applied and region-specific nature of the field, with stronger activity in regions where sweet potato is available as a potential substitute for corn.

The analysis of corresponding author affiliations highlighted Nigeria as the country with the highest number of publications, followed by Indonesia, Brazil, China, and Japan. Most records were single-country publications, reinforcing the predominance of nationally organized research. Australia, France, and Mexico showed evidence of multiple-country publications, but the general level of internationalization remained low.

The longitudinal country profile confirmed Nigeria as the leading research hub over time, with a clear increase in cumulative production after the 1990s and especially after 2010. Indonesia and Brazil also showed marked growth in the last decade. When citation impact was considered (highest number of citations), Nigeria again occupied the leading position, followed by Australia, China, and Japan, whereas Indonesia, despite its relatively high number of studies, had comparatively lower citation impact, probably because many of its contributions are recent.

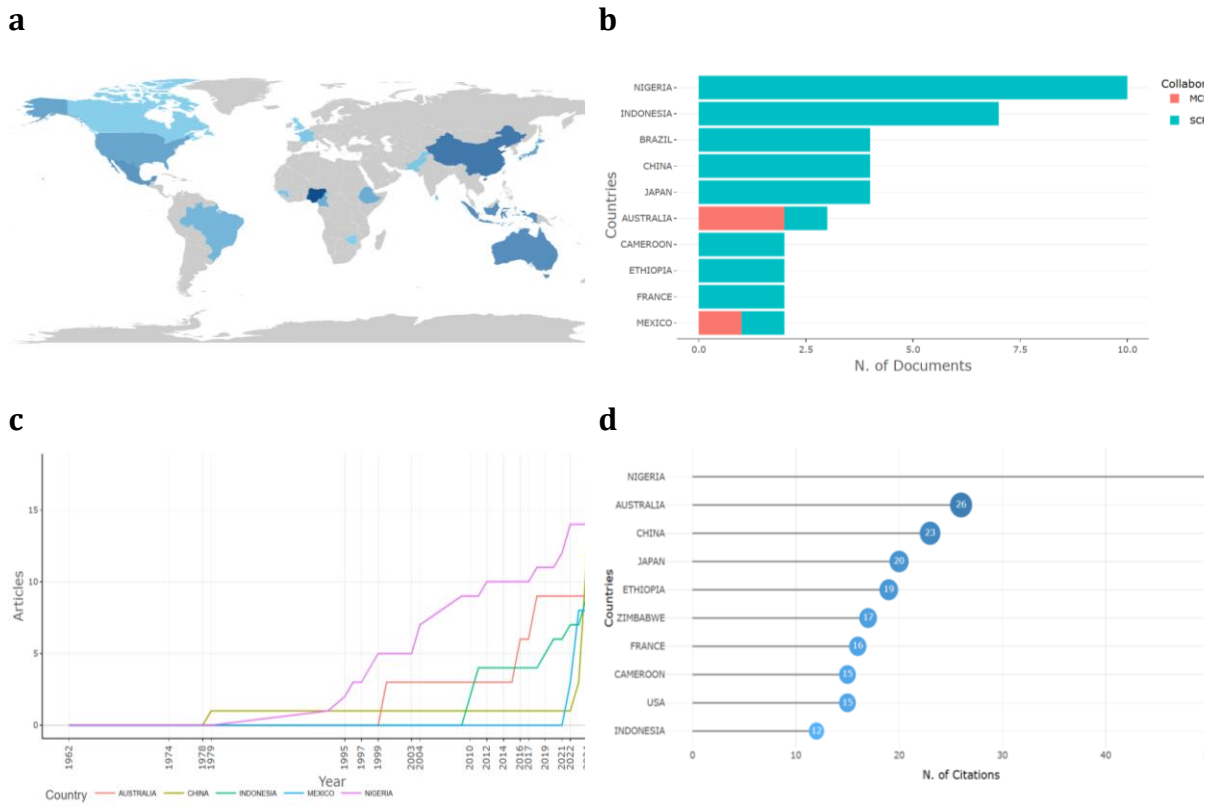


Figure 6 - Country-level structure of the field. (a) Countries' scientific production. (b) Corresponding authors' countries, including single-country (SCP) and multiple-country publications (MCP). (c) Evolution of scientific production by country. (d) Citation impact by country.

Authorship, institutional productivity, and highly cited documents

The most productive authors (Figure 7) were Yoshida, Hoshii and Morimoto, each with four publications (Yoshida et al., 1962a, 1962b). These Japanese researchers were responsible for pioneering studies in the 1960s on the use of sweet potato as a carbohydrate source in poultry feed. Agwunobi followed with three publications, and other relevant contributors included Agusetyaningsih, Ayuk, Febrianti, Forder, Glatz, and Haryati, indicating the later geographical diversification of the field (Agwunobi, 1993, 1999; Ayuk, 2004; Ayuk; Essien, 2009; Febrianti et al., 2024; Haryati; Supriyati, 2010, 2011; Pandi et al., 2016, 2018).

The temporal evolution of authorship reveals successive generations of researchers. Early contributions were dominated by Japanese authors, followed by Nigerian work in the 1990s and by Indonesian and Australian groups from the 2000s onward. Lotka's law confirmed the expected concentration pattern, in which most authors contributed a single paper and only a small core of researchers published repeatedly in this niche.

At the institutional level, the University of Adelaide and North Carolina State University appeared as leading affiliations, followed by institutions from Nigeria, Cameroon, Brazil, and Indonesia. The most globally cited papers included studies addressing immunomodulatory effects, feed value, energy utilization, heat-stress responses, and the effects of sweet potato on poultry performance and product quality (Agwunobi, 1999; Beckford; Bartlett, 2015; Fang et al., 2023; Farrell et al., 2000; Hanieh et al., 2010; Maphosa et al., 2003; Ravindran; Sivakanesan, 1996; Szylit et al., 1978).

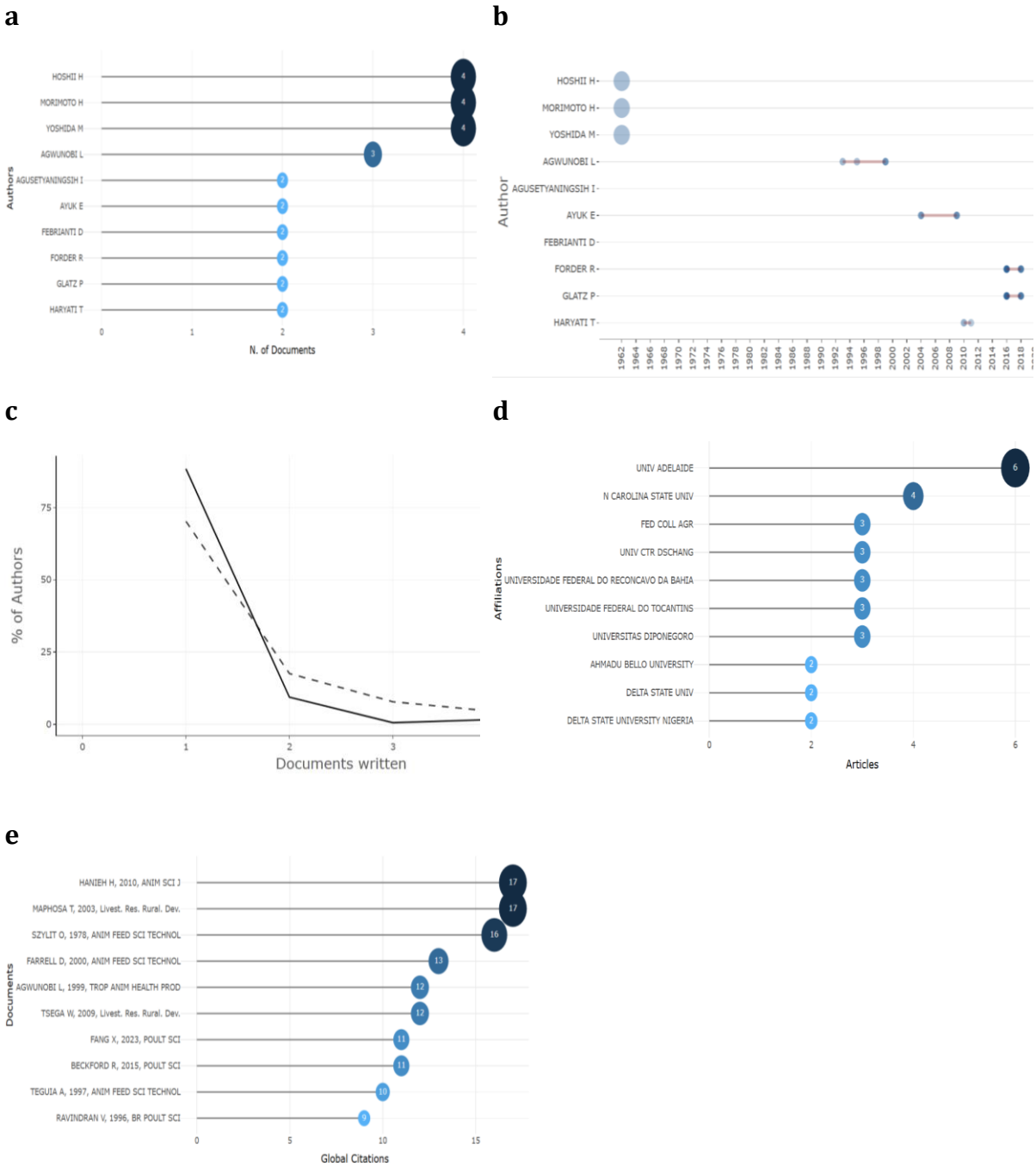


Figure 7 - Authorship and institutional structure. (a) Most relevant authors. (b) Authors' production over time. (c) Author productivity according to Lotka's law. (d) Most relevant affiliations. (e) Most globally cited documents.

Collaboration networks and thematic evolution

The collaboration network among authors (Figure 8) revealed a fragmented structure composed of several isolated or weakly connected clusters. The Indonesian cluster led by Agusetyaningsih appeared as one of the most robust regional groups, while the early Japanese cluster associated with Yoshida remained detached from later research networks. Other smaller clusters, such as those led by Forder and Glatz in Australia, reflected localized collaboration rather than broad international integration.

The global collaboration map also showed a low density of international cooperation, with only a few visible links, notably between Nigeria and Australia. Although several countries publish on the topic, most studies remain nationally or regionally organized, which limits methodological standardization and global synthesis.

The thematic map identified a consolidated motor-theme core centered on sweet potato, broilers, poultry, performance, and *Ipomoea batatas*. Basic themes included carcass, broiler chickens, and supplementation. Niche themes included energy source, fermentation, bacteria, and meat quality, whereas emerging or declining themes included purple sweet potato and feed intake. Factorial analysis reinforced the dominance of terms related to chicken, broiler, digestibility, nutrition, and apparent metabolizable energy, while also revealing peripheral themes linked to social and production contexts.

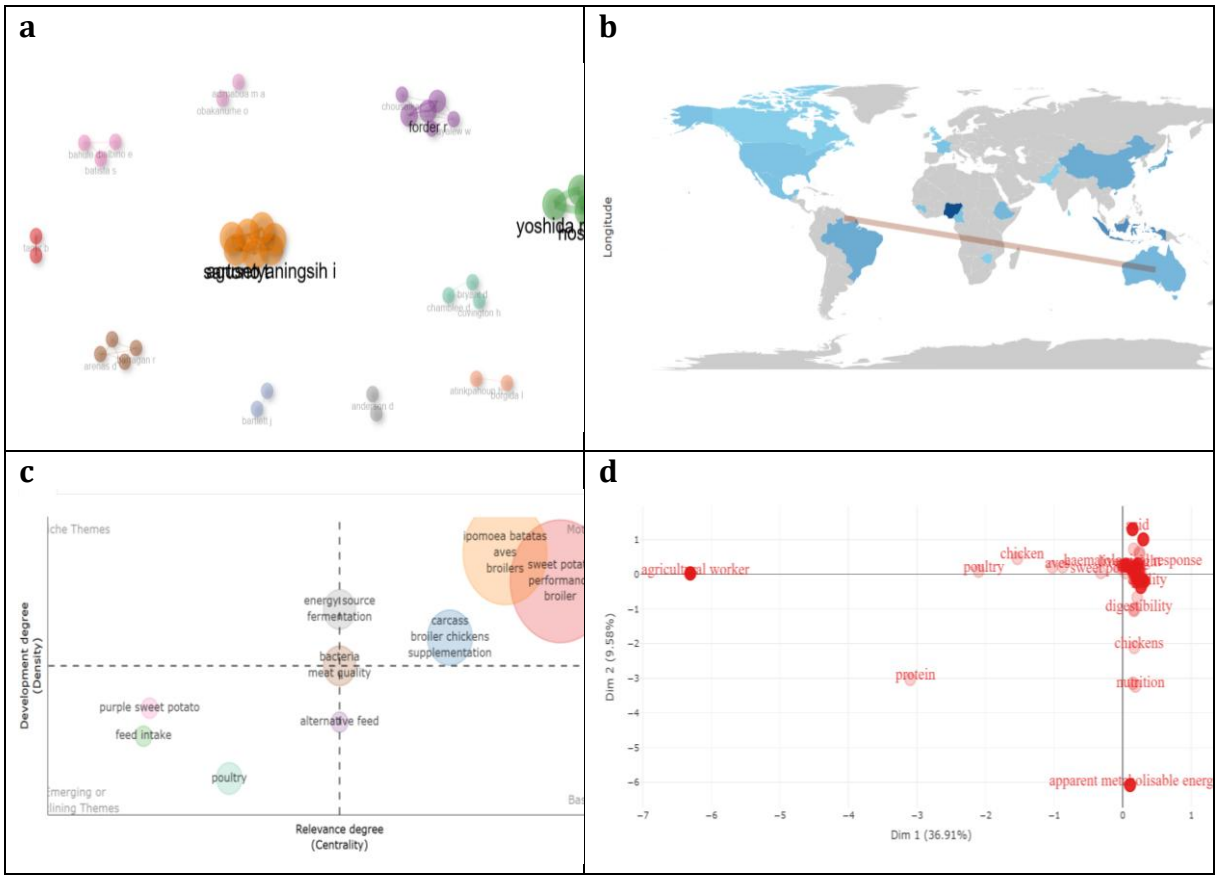


Figure 8 - Collaboration and thematic structure. (a) Author collaboration network. (b) Countries' collaboration world map. (c) Thematic map of conceptual structure. (d) Factorial analysis of keywords.

DISCUSSION

The present bibliometric analysis demonstrates that, although research on the use of sweet potato in poultry nutrition dates back to the 1960s, the field remains relatively small and has not consolidated into a continuously expanding research line. The negative annual growth rate should not be interpreted as evidence of irrelevance; rather, it likely reflects the historical dominance of conventional commodities such as corn and soybean meal in poultry nutrition research. This structural preference has limited the exploration of alternative regional feed resources, even in contexts where they may offer economic and environmental advantages.

The filtering process also illustrated the need for a clear disciplinary boundary. A substantial number of excluded records were duplicates or studies outside poultry nutrition, especially agronomic papers evaluating poultry manure as fertilizer for sweet potato crops, aquaculture

studies using sweet potato in fish diets, and biomass valorization papers. Restricting the corpus to studies directly investigating sweet potato as an ingredient in poultry diets was essential to ensure analytical consistency and thematic specificity.

The relatively high number of author keywords in relation to Keywords Plus indicates a field with considerable thematic breadth but still limited terminological standardization. This dispersion is reinforced by the predominance of original experimental studies and the scarcity of reviews and technical notes, which suggests that the field is still in a consolidation phase and lacks a strong body of integrative synthesis capable of generating generalized recommendations for the poultry industry.

The average of 4.18 co-authors per paper reflects the collaborative nature of agricultural and animal science research. However, the low international co-authorship rate (8%) and the fragmented collaboration maps reveal that most research groups still operate within national or regional boundaries. This regionalization is understandable, because the use of sweet potato as a feed resource is strongly connected to local production systems and local availability. Even so, such fragmentation limits the comparability of results across environments, genotypes, processing technologies, and poultry production systems.

The concentration of publications in Nigeria, Indonesia, China, Brazil, and Australia confirms that scientific production is largely anchored in tropical and subtropical countries. These countries tend to view sweet potato not only as a biological resource but also as a strategic response to the cost and supply instability of conventional grains. Nigeria's leading role in both publication volume and citation impact highlights how regional challenges can stimulate the development of locally relevant scientific niches with broader international importance.

The chronological pattern of research reveals an interesting thematic shift. Early studies were primarily concerned with sweet potato as an energy source capable of replacing part of the dietary corn. Over time, the field expanded to include work on digestibility, carcass traits, nutrient utilization, and, more recently, bioactive compounds, antioxidant activity, microbiota modulation, heat-stress mitigation, and product quality. This transition from a classical feed-substitution paradigm toward functional nutrition is one of the most important signals emerging from the bibliometric structure of the field. More recent studies have expanded the

scope of the field to antioxidant activity, heat-stress mitigation, meat quality, intestinal morphology, microbiota modulation, and the use of purple sweet potato-derived compounds (Fang et al., 2023; Hanieh et al., 2010; Nasoetion et al., 2019; Oladeji et al., 2022; Oluwabiyi; Song, 2024; Torres et al., 2023; Widiastuti et al., 2024).

The thematic and factorial analyses reinforce this interpretation. Performance and digestibility remain the conceptual core of the literature, but niche and emerging themes point toward promising new directions such as fermentation, oligosaccharides, anthocyanins, meat quality, and intestinal health. Purple sweet potato, in particular, appears as an emerging topic because of its bioactive profile and the possibility of aligning poultry nutrition with current demands for healthier products, better resilience to environmental stressors, and more sustainable feeding strategies.

A major limitation of the current evidence base is methodological heterogeneity. Studies vary markedly in the cultivar of sweet potato evaluated, the plant fraction used (roots, leaves, residues, extracts), the processing strategy adopted (raw, dried, cooked, fermented), and the inclusion levels tested. Such variability hinders direct comparison among studies and prevents the formulation of robust nutritional recommendations. From a practical standpoint, this is one of the main barriers to the wider adoption of sweet potato in commercial poultry production. Studies vary markedly in the cultivar evaluated, the plant fraction used, the processing strategy adopted, and the poultry species tested. The literature includes roots, leaves, vines, residues, flour, extracts, and fermented products, which makes direct comparison difficult (Chwen et al., 2020; Edache et al., 2018; Farrell et al., 2000; Mmereole, 2009; Panigrahi et al., 1996; Tamir; Tsega, 2010; Tsega; Tamir, 2009; Yao et al., 2024).

Investigations involving sweet potato leaves, vines, and agricultural residues have reported effects on growth performance, carcass characteristics, blood parameters, nutrient utilization, and product quality, although the magnitude of these effects depends on inclusion level and processing method (Farrell et al., 2000; Oghenebrorhie; Job, 2021; Tamir; Tsega, 2010; Teguia et al., 1993, 1997; Tsega; Tamir, 2009).These findings suggest that future progress will depend not only on increasing the number of studies but also on improving their structural organization. Harmonized protocols, clearer ingredient characterization, more consistent

reporting of inclusion levels and processing methods, multicenter trials, and quantitative synthesis approaches such as meta-analysis are needed to move the field from a regionally fragmented niche toward a more robust and globally informative body of evidence.

CONCLUSION

Overall, the literature indicates that sweet potato has been investigated as a relevant alternative ingredient in many poultry production contexts, particularly in tropical regions. The next step is to strengthen evidence quality and integration so that sweet potato is considered not only as an alternative energy feedstuff but also as a functional component aligned with current priorities in poultry science, including health, resilience, sustainability, and product quality.

The bibliometric analysis of sweet potato use in poultry nutrition reveals a historically sparse and still fragmented field, with modest average impact, declining long-term growth, and limited international collaboration. The literature is dominated by original experimental studies focused on performance and digestibility, whereas integrative syntheses remain scarce.

Scientific production is concentrated mainly in tropical and subtropical countries, reflecting the regional availability of sweet potato and the practical search for alternatives to conventional grains. At the same time, the field is undergoing a thematic transition, moving from a strictly energy-substitution perspective toward a broader agenda that includes gut health, antioxidant effects, microbiota modulation, and other functional applications.

To strengthen the scientific relevance and practical applicability of this field, future research should prioritize methodological standardization, ingredient characterization, harmonized reporting, and stronger international research networks. Multicenter studies and meta-analytical approaches will be especially important for transforming a fragmented body of evidence into robust knowledge capable of supporting the wider use of sweet potato in sustainable poultry production systems.

LIMITATIONS OF THE STUDY

This study has some limitations that should be considered when interpreting the results. First, the search strategy was restricted to document titles, which may have excluded some publications indexed only through abstracts or keywords. Second, only Scopus and Web of Science were used, which may have limited the retrieval of regional literature not indexed in these databases. Third, cited-reference analysis was not available after merging the database exports, which restricted deeper exploration of citation networks. Despite these limitations, the study provides a robust overview of the development, structure, and thematic evolution of research on sweet potato in poultry nutrition.

BATATA-DOCE (*Ipomoea batatas*) NA NUTRIÇÃO DE AVES: UMA ANÁLISE BIBLIOMÉTRICA (1962–2025)

RESUMO

Este estudo apresenta uma análise bibliométrica abrangente da produção científica sobre o uso da batata-doce (*Ipomoea batatas*) na nutrição de aves, com ênfase em sua relevância para sistemas de produção tropicais e subtropicais. Os registros foram obtidos das bases de dados Scopus e Web of Science em 28 de setembro de 2025, utilizando uma estratégia de busca restrita ao título, e os metadados resultantes foram processados no software R com o pacote bibliometrix. Um total de 50 documentos publicados entre 1962 e 2025 foi mantido após as etapas de triagem, limpeza e remoção de duplicatas. O conjunto de dados revelou uma taxa anual de crescimento decrescente (−2,18%), idade média das publicações de 19,8 anos, 5,1 citações por documento e baixa participação de coautoria internacional (8%). Artigos originais de pesquisa predominaram (90%), enquanto revisões e notas técnicas foram escassas. A produção científica concentrou-se em países tropicais e subtropicais, especialmente Nigéria, Indonésia, China, Brasil e Austrália, refletindo a disponibilidade regional da batata-doce e a natureza aplicada do tema. Os estudos ainda se concentram em desempenho e digestibilidade, porém mudanças temáticas recentes indicam crescente interesse em propriedades funcionais, saúde intestinal, efeitos antioxidantes e compostos bioativos, especialmente da batata-doce roxa. Apesar do potencial como ingrediente alternativo sustentável para alimentação animal, o campo permanece fragmentado e metodologicamente heterogêneo. Maior colaboração internacional, protocolos harmonizados e abordagens integrativas, como meta-análises e estudos

multicêntricos, são necessários para melhorar a robustez e a aplicabilidade das evidências sobre o uso da batata-doce em sistemas de produção avícola.

Palavras-chave: Produção avícola. Bibliometria. Compostos bioativos. Dietas para frangos de corte. Ingredientes alternativos. Sustentabilidade.

BONIATO (*Ipomoea batatas*) EN LA NUTRICIÓN AVÍCOLA: UN ANÁLISIS BIBLIOMÉTRICO (1962–2025)

RESUMEN

Este estudio presenta un análisis bibliométrico exhaustivo de la producción científica sobre el uso del boniato (*Ipomoea batatas*) en la nutrición avícola, haciendo hincapié en su relevancia para los sistemas de producción tropical y subtropical. Los registros se obtuvieron de las bases de datos Scopus y Web of Science el 28 de septiembre de 2025, mediante una estrategia de búsqueda restringida por título, y los metadatos resultantes se procesaron en el software R con el paquete bibliometrix. Después de la selección, limpieza y eliminación de duplicados, se retuvo un total de 50 documentos publicados entre 1962 y 2025. El conjunto de datos reveló una tasa de crecimiento anual decreciente (−2,18%), un antiguo promedio de los documentos de 19,8 años, 5,1 referencias por documento y una escasa coautoría internacional (8 %). Predominaron los artículos de investigación originales (90%), mientras que las revisiones y las notas técnicas fueron escasas. La producción científica se concentró en países tropicales y subtropicales, especialmente Nigeria, Indonesia, China, Brasil y Australia, lo que refleja la disponibilidad regional de los boniatos y el enfoque aplicado del tema. La literatura científica aún enfoca estudios sobre rendimiento y digestibilidad, pero los recientes cambios temáticos indican un creciente interés en las propiedades funcionales, la salud intestinal, los efectos antioxidantes y los compuestos bioactivos, especialmente los de la batata morada. A pesar de su potencial como ingrediente alternativo sostenible para la alimentación animal, el campo sigue fragmentado y metodológicamente heterogéneo. Se requiere una mayor colaboración internacional, protocolos armonizados y enfoques integradores, como meta-análisis y estudios multi-céntricos, para mejorar la solidez y la aplicabilidad de evidencias sobre el uso de la batata en los sistemas de producción avícola.

Palabras clave: Producción avícola. Bibliometría. Compuestos bioactivos. Dietas para pollos de engorde. Ingredientes alternativos. Sostenibilidad.

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