


Worldwide Trends in Agronomy Research: Bibliometric Studies

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Abstract: Agriculture has the large challenge of providing food for a continuously growing world population, while natural resources remain the same. This great challenge is certainly supported in the future by *Agronomy*, which brings together practical knowledge and scientifically based techniques and applies them to agricultural productivity. Research in agronomy at a global level must reflect global interests, while considering the particular conditions of each country or region. One of the main objectives of this Special Issue is to contribute studies that help to identify the global research trends in agronomy, especially if they have an approach related to sustainability.

Keywords: agronomy; patents; scopus; sustainability; precision agriculture; coffee; ozone; environment; health; agroforestry; bibliometrics; berry growers; artificial intelligence; agriculture; robots; farming automation; economy; irrigation



Citation: Salmerón-Manzano, E.; Manzano-Agugliaro, F. Worldwide Trends in Agronomy Research: Bibliometric Studies. *Agronomy* **2021**, *11*, 1993. <https://doi.org/10.3390/agronomy11101993>

Received: 10 September 2021

Accepted: 24 September 2021

Published: 1 October 2021

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1. Introduction

Agriculture is the world's most pressing and responsible sector, given that seven billion people must eat every day. To achieve this, there are the following three priority issues: health, variety, and quantity. Agriculture, therefore, is the cultivation of land or the production of crops from the soil, but its main science of study is agronomy. Agronomy can be understood as the field of science that oversees organizing the knowledge of various applied sciences, focused on enhancing the quality of production processes and the transformation of agricultural products.

Globally, food security is at risk, and for this reason, agronomy must achieve agricultural sustainability on Earth. In summary, *Agronomy* should contribute to improve the efficiency in the use of resources for food production.

One of the main objectives of this Special Issue is to contribute studies that help to identify the global research trends in agronomy, especially if they have an approach related to sustainability. Therefore, articles reviewing this state of the art in any of these issues, bibliometric or scientometric studies, and research articles with a global perspective are welcome. These studies are recommended to identify the research trends in each scientific field related to agronomy and, if possible, identify the open challenges in that particular field of study.

2. Publications Statistics

The summary of the call for papers for this Special Issue on the 12 manuscripts submitted is as follows: three rejected (25%) and nine published (75%).

The submitted manuscripts come from seven countries and are summarized in Table 1. For this statistic, only the first affiliation of the authors has been considered, in which it gives us the opportunity to observe 37 authors from 7 countries. Note that it is common for a manuscript to be signed by more than one author and for authors to belong to different affiliations. The average number of authors per published manuscript in this Special Issue was four authors.

Table 1. Authors' countries: statistics.

| Country | Authors |
|----------|---------|
| Spain | 18 |
| Mexico | 1 |
| Honduras | 1 |
| Brazil | 4 |
| Chile | 4 |
| Italy | 2 |
| Greece | 7 |
| Total | 37 |

3. Authors' Affiliation

There are 12 different affiliations of the authors. Note that only the first affiliation per author has been considered. Table 2 summarizes the authors and their first affiliations.

Table 2. Authors' affiliation: statistics.

| Author | First Affiliation | References |
|---------------------------|---|------------|
| Ochoa-Noriega, C.A. | University of Almeria | [1] |
| Aznar-Sánchez, J.A. | University of Almeria | [1,2] |
| Velasco-Muñoz, J.F. | University of Almeria | [1,2] |
| Álvarez-Bejar, A. | National Autonomous University of México | [1] |
| Mesa-Vázquez, E. | University of Almeria | [2] |
| López-Felices, B. | University of Almeria | [2] |
| Ruiz-Real, J.L. | University of Almeria | [3] |
| Uribe-Toril, J. | University of Almeria | [3] |
| Torres Arriaza, J.A. | University of Almeria | [3] |
| de Pablo Valenciano J. A. | University of Almeria | [3] |
| Cascajares, M. | University of Almeria | [4] |
| Alcayde, A. | University of Almeria | [4] |
| Salmerón-Manzano, E. | Universidad Internacional de La Rioja (UNIR) | [4] |
| Manzano-Agugliaro, F. | University of Almeria | [4] |
| Borrero, J.D. | University of Huelva | [5] |
| Zabalo, A. | University of Huelva | [5] |
| Madrid-Casaca, H. | Universidad Nacional Autónoma de Honduras | [6] |
| Salazar-Sepúlveda, G. | Universidad Católica de la Santísima Concepción | [6] |
| Contreras-Barraza, N. | Universidad Andres Bello | [6] |
| Gil-Marín, M. | Universidad Autónoma de Chile | [6] |
| Vega-Muñoz, A. | Universidad Autónoma de Chile | [6] |
| Jimenez-Montenegro, L.; | Universidad Politécnica de Madrid | [7] |
| Lopez-Fernandez, M.; | Universidad Politécnica de Madrid | [7] |
| Gimenez, E. | Universidad Politécnica de Madrid | [7] |
| Santana, L.S. | Federal University of Lavras | [8] |
| Ferraz, G.A.e.S. | Federal University of Lavras | [8] |
| Teodoro, A.J.d.S. | Federal University of Lavras | [8] |
| Santana, M.S. | Federal University of Lavras | [8] |
| Rossi, G. | University of Florence | [8] |
| Palchetti, E. | University of Florence | [8] |
| Lytridis, C. | International Hellenic University (IHU) | [9] |
| Kaburlasos, V.G. | International Hellenic University (IHU) | [9] |
| Pachidis, T. | International Hellenic University (IHU) | [9] |
| Manios, M. | International Hellenic University (IHU) | [9] |
| Vrochidou, E. | International Hellenic University (IHU) | [9] |
| Kalampokas, T. | International Hellenic University (IHU) | [9] |
| Chatzistamatis, S. | International Hellenic University (IHU) | [9] |

4. Topics

Table 3 summarizes the research conducted by the authors on this Special Issue, by identifying the areas to which they report. It was noted that they have been grouped into the following five main lines of research: Crops, Technologies, Water and Environment, Plant response, and Bibliometry.

Table 3. Topics for Worldwide Trends in Agronomy Research: Bibliometric Studies.

| Bibliometric Studies | Number of Manuscripts | References |
|-----------------------|-----------------------|------------|
| Water and Environment | 2 | [1,2] |
| Technologies | 2 | [3,9] |
| Bibliometry | 1 | [4] |
| Crops | 3 | [5,6,8] |
| Plant response | 1 | [7] |

Author Contributions: E.S.-M. and F.M.-A. all made equal contributions to this article. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Acknowledgments: The authors would like to thank to the CIAIMBITAL (University of Almeria, CeiA3) for its support.

Conflicts of Interest: The authors declare no conflict of interest.

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