

Number of research papers about Agricultural production, Meat, and Egg During COVID-19 Pandemic: Does it Changed than Before?

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ABSTRACT

COVID-19 pandemic limits many physical activities of the society in public areas. The agricultural production sector is one of the important sectors in supporting the country's nutrition demand. Research is a way to maintain the productivity of the agricultural sector. This study has a purpose to analyze if pandemic COVID-19 has an impact on the number of papers about agriculture recorded by Scopus. This study uses a quantitative with secondary data analysis approach in collecting data. The samples are paper on the Scopus website contains keywords "agriculture& meat", and "agriculture&egg". the period of samples are during 2019-2020. The data are analyzed using Vosviewer software to show the institution with the most related topic paper. The result shows that some papers are decreasing while others are increase based on the document type. For paper related to "agriculture" meat", article as full type research paper increases along with review type paper. For a paper about "agriculture & egg", conference type paper and review increase, while other decreases. It can be concluded that the type of paper along with the topic affects the institutions' productivity in publishing papers.

Key words: Agricultural production, COVID-19, Egg, Meat, Research papers.

INTRODUCTION

COVID-19 pandemic sure restricts any movement of society in the public area. The rate of infection is so high in every country, causes each government to run travel warning and temporary lockdown. This pandemic also restricts society to follow the procedure of physical distancing in any public place. As a result, many institutions and companies enact the regulation for their employees and executives to work from home¹.

One of the institutions which impacted mostly by the restriction of physical contact is higher education. Higher education in several countries implies to use of online courses for the substitution of physical class and panel discussion in a table. The problem lies in the medical and science majors who need the laboratory and practical aspects in the real world but cannot conduct research because of the university banning conducting contact with other people. As a result, most of the researchers rely on the secondary data gathered on the internet as the only sample of the study².

Secondary data can become handy for those who are seeking fast publication in journals. However, not all of the data is provided by data providers. To cope with the situation, many researchers adjust their topic of the study with the available data, so that they can still research restricted situations³. It is compulsory, especially for students who gather the data for their dissertation or thesis in a limited time⁴.

Research about farms and veterinary is essential for society because it can maintain the stability of food

and agricultural product through research invention. In this pandemic, the supply of food through crops and cattle becomes compulsory to maintain a country's health, so that the death and infection rate of COVID-19 can be minimalized⁵. Research and development is the leading figure to speed up the production process in agriculture³. Moreover, research about agriculture and food science is also needed to make sure that there is no failure which causes loss of crop production, shows the effect of certain food consumption effect to the body, as well as the impact of food processing technique on human's body⁶.

To record the result of the research and invention, academicians and researchers publish their results in a paper for an international journal. One of the reputable institutions in measuring the quality of a journal is Scopus. Scopus also provides a website to show the database of a journal such as level of the journal, paper topic, author, affiliation, number of papers published every year, as well as the ranking of several journals compared to each other⁷. This study has an aim to observe if pandemic COVID-19 has an impact on the number of papers about agriculture recorded by Scopus.

METHOD OF THE STUDY

This study is a quantitative research using secondary data analysis as the approach in collecting and analyzing the sample. The data is gathered through the Scopus website as a free data provider of any kinds of information related to journals and their contents⁸. This study uses secondary data because there some restrictions in conducting real-life research in public institutions by the author's

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government. As a result, relying upon secondary data is the only possible way to conduct this study⁴.

The population of this study is the information of all papers related to life science from 2019 to 2020 on the Scopus website. The samples are divided into three, one of them is “papers contain keywords “agriculture” and “meat”, and papers contains “agriculture” and “egg” keywords. The second sample is the total of paper from 2019 to 2020 based on the document type. The third one is based on the country and their affiliation of the authors⁹.

Paper of the first and second criteria will be analyzed directly and presented on the table. The third one will be analyzed using Vosviewer software and see the relevant point. This study measures its relevance point from 0-10 and limit the minimum number of relevance point at least 2. The data also presented in the table¹⁰.

RESULT AND DISCUSSION

Table 1 shows that instead of decreasing, some papers have been increasing during 2020. Paper type of review and article related to “agriculture & meat” is increased. Other types are decreased. However, the paper about “agriculture & egg” with the type of conference paper is increased. It can be stated that depending on the topic, some paper types can be increased or decreased.

Rizou *et al* in their study state that meat is an important source of protein that is needed for maintaining the country’s nutrition, especially in the COVID-19 pandemic. Lack of meat supply can cause malnutrition to the society, which can impede the recovery rate of the society infected by COVID-19¹¹. As a result, local and central governments emphasize the country’s fund for research and development of agriculture, so that more innovation can be found to maintain the supply of meat as an agricultural product¹².

To record the result of research, institution or higher education tend to submit their paper as an article. The article is the type of paper that can be directly sent to the targetted journal⁷. But the review process of an article to get accepted into a high-quality journal can take time and exhaust. But if an article itself has some merits or contains breakthroughs in a certain field of study, that article will be reviewed fast¹³. Table 1 shows that the document type of article about “agriculture & meat” has the biggest number than other document types and rises in 2020. This is because more articles can give more insight to global society about meat production, supply, and content so that more people can implement the research result to maintain meat supply in a country¹⁴.

Table 2 shows that Brazil has the highest document related to agriculture and meat. it also has a relevant point of 8. Not only that, 3 of the 10 institutions with the most relevant topic about agriculture and meat are from Brazil. Besides Brazillian institutions, Greece has more institutions that publish a paper about agriculture and meat, although the total link strength score is lower.

The table above also shows that besides Brazil and Greece, USDA as The united States department which supervises agricultural product, method, and regulation also included as one of the institutions above. USDA is known as the institution with the complete report of US

Table 1: Total document type with keyword “agriculture-meat” and “agriculture-egg”.

Agriculture & meat	Agriculture & meat		Agriculture & egg	Agriculture & egg	
	2019	2020		2019	2020
Document type			Document type		
Article	244	275	Article	189	161
Conference paper	97	89	Conference paper	47	49
Review	40	46	Review	17	23
Book chapter	16	7	Book chapter	8	1
Note	5	9	Note	2	3

Table 2: Affiliated department with the highest papers about agriculture and meat.

Organization	Total Link Strength
college of agricultural science, são paulo state university, botucatu, Brazil	8
department of development decentralization, agência paulista de tecnologia dos agronegócios, são paulo agency of agribusiness technology, andradina, Brazil	8
department of microbial ecology, nioo-knaw, Netherlands institute of ecology, wageningen, Netherlands	8
iac, instituto agrônômico de campinas, soils and environmental resources center, campinas, Brazil	8
USDA, agricultural research service, ncsu campus, raleigh, NC, United States	8
laboratory of animal husbandry, school of veterinary medicine, faculty of health sciences, aristotle university of thessaloniki, Greece	7
laboratory of hygiene of food of animal origin – veterinary public health, school of veterinary medicine, faculty of health sciences, aristotle university of thessaloniki, Greece	7
laboratory of animal production economics, school of veterinary medicine, faculty of health sciences, aristotle university of thessaloniki, Greece	5
laboratory of technology of food of animal origin, school of veterinary medicine, faculty of health sciences, aristotle university of thessaloniki, Greece	5

agricultural products each month. The data is also can be accessed and downloaded for free from their website. The openness of the information makes USDA the favorite data source either for researchers as well as for policymakers.

According to a study by, Brazil does not rely on the protection of the local product, because the government believes that they have the best research and development in agriculture. As a result, the crop production along with the production from cattle also maximized both in quantity and quality, so that their local product can compete with import product¹⁵. Brazil, Besides, per-capita consumption of chicken and beef in Brazil is one of the highest countries in the world. Therefore, the livestock industry in Brazil was developed massively, both in terms of technological development and meat processing techniques. As a result, Brazilian livestock products are not only sufficient for domestic needs but also foreign countries, especially beef and chicken⁶.

According to the report from Statista.com, beef & Veal production in Brazil reached 1.200 metric tonnes in 2019. The number decreased to 10.100 metric tonnes in 2020. The pandemic itself and the isolation of public activity to prevent massive infection outbreak is the main reason behind this declining¹⁶. But still, the number of production is astonishing, because Brazil is not only can meet the domestic demand for meat, but also the international demand for meat supply⁶.

Table 3 shows that there are fewer institutions that have papers related to agriculture and egg than table 2. All of the institutions in table 3 have the same total link strength, which indicates that all of them have a similar degree of interest in researching agriculture and egg. Table 3 also find out that Both Egypt, Pakistan, and the United States have the same number of the institution who publish a paper about the targetted topic. All of the affiliated institutions in table 3 are faculties.

In table 1, document type of conference paper about agriculture and egg increase, while document type article decrease. All of the institutions included in table 3 are faculties that more favored to publish into conference paper rather than an article. It can be inferred that a conference paper is more popular than an article in research about agriculture and egg.

Table 3: Affiliated department with the highest papers about agriculture and egg.

Organization	Total Link Strength
department of agricultural and biological engineering, purdue university, west lafayette, in 47907, United States	2
department of animal sciences, purdue university, west lafayette, in 47907, United States	2
department of entomology, university of agriculture, faisalabad, Pakistan	2
department of histology and cytology, faculty of veterinary medicine, damanhour university, damanhour, Egypt	2
department of poultry, faculty of agriculture, zagazig university, zagazig, Egypt	2
entomological research institute, ayub agricultural research institute, faisalabad, Pakistan	2

According to a study by Barus & Mungkasi, the article has more difficulties getting accepted in a journal indexed by Scopus rather than a conference paper¹⁷. Conference papers take mutual agreement between members of institutions which hold the conference to publish a paper of each other. However, the article is commonly directly sent by the author into the journal and has to undergo several reviewing steps, which can take a long time to finish¹⁸.

According to the data by USDA, the egg production in The United States differs between 2019 to 2020. In 2019, total egg production based on type reached 9809 million eggs in December. But in 2020, the production halt in April where it reached 931,6 million eggs, and no more production since then¹⁹. Interestingly, the USA is the second-biggest egg producer in the world after China¹⁹.

CONCLUSION

Based on the result above, it can be concluded that the pandemic of COVID-19 affects the number of publications about agriculture, meat, and egg a bit. Depends on the document type of the paper, the number can be incline or decline. For papers with the topic of agriculture and meat, the document type of article rises in 2020. But for papers about agriculture and egg, the document type of conference paper rises in 2020 while others decline.

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ABBREVIATIONS

USDA: United States Department of Agriculture; COVID: Coronavirus Disease.

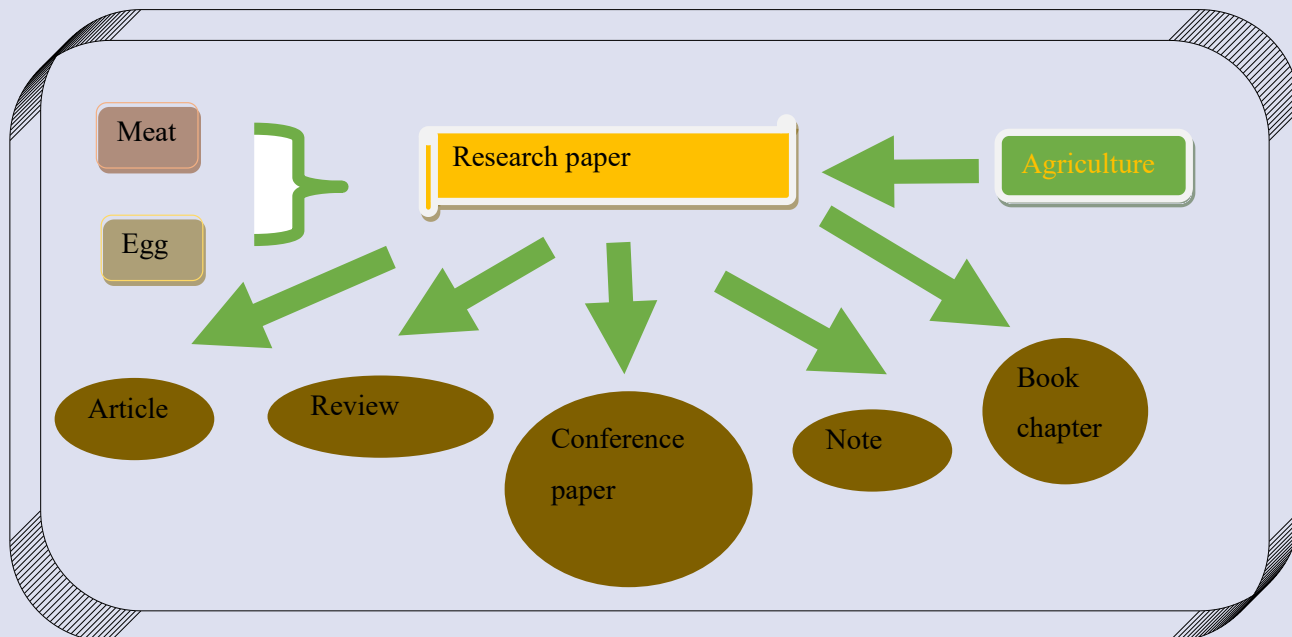
CONFLICTS OF INTEREST

There is no conflicts of interest related to the writing process nor research process of this paper.

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GRAPHICAL ABSTRACT



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