

Burrata cheese: Trends over the last decade and future research

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Abstract

Burrata is a delicate pasta filada cheese with a creamy filling. A bibliometric review of the last 10 years in Web of Science revealed a constant increase in articles on the production of this cheese, with Italy leading in the number of publications. The Journal of Dairy Science was the lead journal. The keywords that stood out the most were “Milk,” “Proteolysis,” and “Pasta filata cheese.” Italian universities have developed studies on microbiological and technological aspects to improve the quality and shelf life of Burrata. However, this bibliometric analysis identified future trends and collaborations in Burrata cheese research.

Keywords: *fior di latte*; pasta filada cheese; stuffed mozzarella.

Practical Application: Revealing the main trends and areas of research related to Burrata through existing scientific production will contribute to identifying gaps in knowledge about Burrata and suggesting directions for future research.

1 INTRODUCTION

Pasta filada cheeses, also referred to as extended filament cheeses or stretched pasta cheeses, include fresh varieties such as Mozzarella (produced from buffalo, goat, or sheep's milk) and *Fior di latte* (made from cow's milk) (Fusco et al., 2022). Artisanal cheeses are made through a process in which curds are dipped in hot water and then stretched, making them easily molded into various shapes (Albenzio et al., 2013).

During this process, the protein structure of the curd is transformed from an amorphous form to an oriented structure of parallel protein fibers (Medved'ová et al., 2020). This occurs due to the changes that occur due to the influence of the appropriate pH and the amount of calcium present in the curd during the heating and stretching stages. However, pH control is due to the activity of starter cultures or the direct addition of organic acids to the milk during curd production (Zimanová et al., 2016).

Burrata is a type of fresh Italian pasta cheese whose consumption for a long period was restricted to the territory of Apulia (Puglia in Italian), located in southern Italy, where it emerged at the beginning of the last century (Natrella et al., 2023). Well known for its creamy texture and mild flavor (Costa et al., 2017), it is a cheese traditionally made from cow's milk through the process of coagulation, molding, and filling (Atanu,

2020). It has an outer shell made of Mozzarella, and its distinctive feature is the creamy filling of fresh cream and strands of Mozzarella cheese inside (Costa et al., 2017; Di Cerbo et al., 2020; Natrella et al., 2023).

In Italian cuisine, Burrata is appreciated for its delicacy and is often served with tomatoes, basil, olive oil, and fresh bread, being used alongside salads, pizzas, pastas, and various dishes (Atanu, 2020). In accordance with Ministerial Decrees n° 170/98 and n° 350/99, Burrata cheese was officially recognized as a “traditional Italian agricultural product” from the Apulia region through the Ministerial Decree of 14/06/2002. In 2016, the cheese “Burrata di Andria” received the protected geographical indication through Regulation (EU) 2016/2103 (European Commission, 2016).

Burrata cheese's popularity has surpassed Italy and expanded to many countries around the world due to its unique texture and delicate flavor (Natrella et al., 2023). Therefore, the legislation for this cheese may vary depending on the country or region in question. In the case of Brazil, there is still no specific legislation for Burrata cheese. However, cheese can be regulated within the standards established by Ordinance No. 146 of March 7, 1996 (Brazil, 1996), Annex I and II, issued by the Ministry of Agriculture, Livestock, and Supply (MAPA), which recommends general requirements for the manufacture of cheeses, from obtaining and selecting milk to processing,

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packaging, labeling, and transportation of products. It defines the categories and classifications of cheeses, in addition to establishing microbiological, physical-chemical, and composition standards (Brazil, 2018).

Investigating the quantity and evolution of scientific publications on this specific cheese can provide insight into the research interest and growth of Burrata cheese production. In recent times, the use of the bibliometric approach in reviews has become more common, driven by several aspects, such as the emergence of software tools, the application of interdisciplinary methodologies, and the increase in resources available to deal with large amounts of data (Donthu et al., 2021a; Donthu et al., 2021b).

Corroborating bibliometric methodologies are useful for evaluating the performance of journals, identifying co-authorship patterns, analyzing co-citation trends, and investigating the main research flows in specific areas (Baker et al., 2021; Donthu et al., 2021b). However, revealing the main trends and areas of research related to Burrata through existing scientific production will contribute to identifying gaps in knowledge about Burrata and suggesting directions for future research, promoting an exchange of information between researchers, and boosting collaboration and the exchange of ideas in this specific area.

In this context, the objective was to carry out a bibliometric analysis to promote a survey of articles related to Burrata cheese, verify the scientific panorama that exists on this type of pasta filada cheese, identify research trends, and boost the development and innovation in the production and consumption of this variety of cheese.

2 MATERIALS AND METHODS

The bibliometric analysis began with a search on the Web of Science (WoS) data platform (www.webofknowledge.com) to analyze global scientific production regarding pasta filada cheeses, specifically Burrata cheese, in the last 10 years (2012–2022). In this study, the search terms “Burrata cheese” or “cheese brine” or “fior di latte cheese” or “filata cheese” or “string cheese” or “aged cheese” were used. The studies found underwent an initial screening that consisted of analyzing the titles and abstracts that were in fact consistent with the theme and through other filters described in Table 1, totaling 128 published articles.

The search period used in this study is suitable for bibliometric research, according to Chueke and Amatucci (2015), who recommend a minimum time of 10 years. However, a reduced rate of publications directly related to Burrata cheese was still

found, as it is a relatively new product for study in different regions of the country of origin.

After the initial screening, the research results were described, highlighting the characteristics present in the 128 selected articles through data analysis developed using the VOSviewer software. This is commonly used to construct and visualize bibliometric maps, and to determine clusters and reference networks for everything that makes up the articles.

Bibliometric analysis made it possible to reveal patterns of relationships between data and thus make qualitative and quantitative assessments of the contributions of variables (authors, institutions, countries, journals, and keywords) present in publications related to Burrata cheese.

3 RESULTS AND DISCUSSION

Figure 1 shows the annual distribution of the number of publications during the diachronic period chosen for the research. It is possible to observe a decreasing trend in two periods: the first between 2012 and 2014, when the number of articles went from 12 to 6, where the main focus of the work was on research aimed at studying the physical-chemical, chemical, and microbiological composition of cheeses.

In the second period between 2015 and 2018, when the reduction was from 14 to 10 articles per year, the focus was on studying different formulations of pasta filada and ripening cheeses, as observed respectively in the studies by Faccia et al. (2015), who produced and characterized *Fior di latte* cheeses made from sheep's and goat's milk, since these cheeses are traditionally produced with cow's milk, and Andronoiu et al. (2015), who evaluated the Cascaval maturation process using instrumental and sensory techniques, as well as the chemical composition of this mass filada cheese traditionally made with sheep's milk.

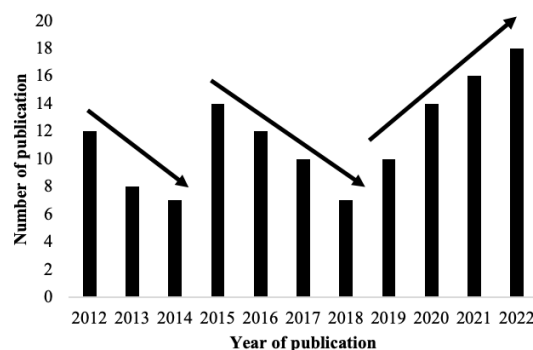


Figure 1. Annual distribution of publications related to Burrata cheese according to the WoS database.

Table 1. Criteria used to screen articles.

Filters	Total number of publications
	Web of Science
Keywords used in the search:	247
Years: 2012–2022	229
Document type: Research articles and review articles	128
Research areas: All	128

However, in the remaining years analyzed, between 2019 and 2022, the behavior was opposite, highlighting a growing increase over the years (Figure 1), going from 10 to 18 published articles. During these years, the focus of publications was on studies focused on mechanisms used to extend the shelf life of cheeses and their physical-chemical composition.

In all years, articles focused on the microbiological area were observed, such as the study by Dambrósio et al. (2013), who evaluated the microbiological quality of 404 samples of Burrata cheese produced in Apulia, and the study by Durango-Zuleta et al. (2022), who isolated, identified, and evaluated the antimicrobial activity of lactic acid bacteria associated with two pasta filada cheeses: *Quesillo* and double-cream.

However, it is possible that the number of articles will increase in the coming years, as this is a topic that is being researched as Burrata cheese and other pasta filada cheeses become recognized around the world.

The 128 articles selected in this study published over these years were written by 572 researchers, and to provide a more detailed analysis of the study, Figure 2 displays a map with the 20 most productive authors on the topic.

In view of the above, the formation of three clusters was observed on the map of the most cited authors, identified by different colors. It can be seen that the majority of authors ($n = 13$) developed only two works on the topic, and this may indicate a lack of consolidation and maturity in this area, as reflected in the low frequency of publications by the same author.

The most productive author was De Angelis, Maria, with five articles published on subjects related to Burrata cheese, cited 67 times, with the most recent published in 2022, which evaluated the composition, role, and evolution of the microbiota of fresh cheeses made of filada dough (Fusco et al., 2022). This author has 318 publications in the WoS main collection since 1997 on the subjects of microbiology, food science and technology, biotechnology, microbiology applied to nutrition and dietetics, biochemistry, and molecular biology.

Next are Gambacorta, Giuseppe, and Faccia, Michelle with four published articles and 18 citations each, both affiliated with the University of Bari, in Italy, with 110 and 115 publications in the

collection, respectively, since 1995. The most cited articles among the authors were three by Napolitano F., with 123 citations. The author has had 143 publications in the database since 1994, but on the topic of this research since 2013, with his last publication in 2022 on sales promotion of pasta filada cheeses (Braghieri et al., 2022).

It was observed that European countries stood out in the production of articles on the subject, which was to be expected considering the origin of Burrata cheese being in the Apulia region of Italy. Table 2 shows the origins of the main journals and their respective numbers of citations.

Italy occupies first place with 60 publications, which can be justified by the country having a public favorable to the consumption of Burrata cheese, as it is the birthplace of the production of pasta filada cheeses. Corroborating, Uzun et al. (2020) evaluated the diversity of *Caciocavallo* cheese through production processes in 68 dairies. They concluded that cheeses have differences in all stages of manufacturing, from the milk used to smoking, which directly affects the organoleptic characteristics of the cheeses.

Belonging to the quantitative of Italy is the research by Natrella et al. (2022) on the use of dry ice during the molding phase to preserve the chemical and microbial characteristics of Burrata cheese, which showed that the technique of direct action of ice inside the product tended to delay the alteration processes, presenting better characteristics in cheese within 21 days.

Furthermore, Roila et al. (2019) also evaluated a method of preserving *Fior di latte* cheese using a polyphenolic extract from the olive oil by-product under a storage period of 24 days and obtained an extension of the shelf life of 2–4 days in two different concentrations of the extract, but concluded that more studies are needed to confirm its real potential. The research was cited 23 times by other authors.

Table 2. The 20 countries with the most publications related to Burrata cheese from 2012 to 2022.

Countries	Documents	Citations
Italy	60	917
USA	15	239
Mexico	8	180
Germany	8	64
Turkey	8	30
Denmark	5	80
Brazil	5	61
Spain	4	50
Canada	3	69
South Korea	3	5
France	2	71
Argentina	2	23
Slovakia	2	6
Poland	2	5
Jordan	1	15
Switzerland	1	12
Netherlands	1	9
Venezuela	1	9
Romania	1	9
Colombia	1	1

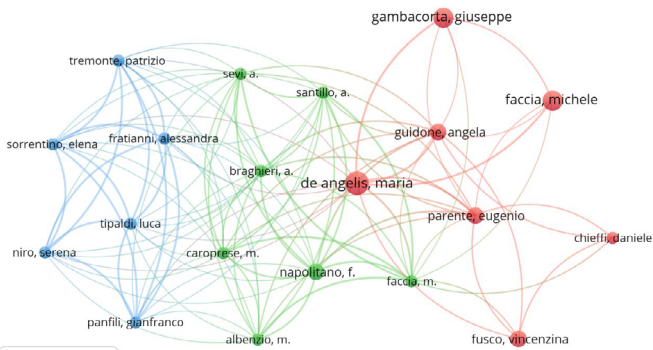


Figure 2. The 20 most cited authors in the literature on subjects related to Burrata cheese between 2012 and 2022.

A Brazilian study by Silva et al. (2020) evaluated the quality of the raw milk used in the manufacture of Porungo cheese, also made from filada dough, produced in the Southwest region of the state of São Paulo to characterize its production process and determine its chemical composition. From the research results, it was possible to observe the satisfactory quality of the raw milk used, and the results found in the cheese served to establish the first technical regulation for Porungo cheese (Silva et al., 2020).

Regarding the vehicles where the works were published, a quantitative analysis was carried out, since, just like the authors' analysis, magazines may indicate immaturity in this line of research. Therefore, between 2012 and 2022, 66 different journals published articles related to Burrata cheese.

Table 3 shows the 20 journals with the highest number of citations on subjects related to Burrata cheese in the last decade (2012–2022), according to an analysis of the WoS database. Of the 20 journals that have the most publications on the research topic, 12 are from European countries, while nine of these are published by Elsevier, including the first three journals in the classification that make up the largest number of published articles.

The main journal with the most publications and citations comes from Pakistan, the Journal of Dairy Science, with 26 publications and 504 citations related to Burrata cheese in the area of food and agricultural science and technology. However, these numbers are much higher than the number of publications and citations in the rest of the classification. The second journal, the International Journal of Food Microbiology, has only six publications but 252 citations, all in the area of food science and technology with a focus on microbiology.

The Journal of Dairy Science remained the leading journal over the past 10 years, with annual publications on the topic. While the second-placed article was published the last time in 2019; however, 14 magazines were published for the first or last time in 2022.

Another important aspect is the scientific influence of the journals, which can be verified through the impact factor and CiteScore, as shown in Table 3. According to the research data, the journals that have the most relevant impact factor and CiteScore are those that published less on the subject, such as the Journal of Food Engineering from the United Kingdom, which has published two articles related to Burrata cheese and has 16 citations, has the highest CiteScore (11.8) and one of the highest factors of research impact (6.2).

However, the absence of periodicals belonging to Brazil portraying articles related to Burrata cheese was observed. This absence can be explained because it is a product that is being introduced little by little in the country, initially through consumption, and therefore a restriction in terms of publications is notable.

Based on the selected articles, 909 different keywords were found; however, in Figure 3, the 20 most cited in the research were selected, and they were divided into four connection clusters.

The keywords most cited in the articles were “Milk” (30 citations), followed by “Proteolysis” (24 citations), and “Pasta filata cheese” (20 citations), which are very common words cited in articles in the area. It was also observed that there was a lack of the word “Burrata” in the keywords since it was more present in the titles of the articles.

The exception was Santanatoglia et al. (2023), who highlighted the name of the cheese in the title and keywords of

Table 3. The 20 journals with the most publications related to Burrata cheese between 2012 and 2022.

Journal	Country	Citations	Publications	Impact factor	CiteScore
Journal of Dairy Science	Pakistan	504	26	4.2	7.1
Int. Journal of Food Microbiology	Netherlands	252	6	5.9	10.3
LWT—Food Science and Technology	USA	61	5	6.0	9.6
International Dairy Journal	Netherlands	50	5	3.5	6.1
Int. Journal of Dairy Technology	USA	41	4	4.2	8.0
Frontiers in Microbiology	Switzerland	38	4	6.0	7.8
Foods	Switzerland	11	4	5.5	4.0
Applied and Environmental Microbiology	USA	60	3	5.0	7.3
Animals	Switzerland	21	3	3.2	4.2
Journal of Dairy Research	United Kingdom	15	3	2.0	3.5
Food Microbiology	USA	76	2	6.3	11.4
Journal of Food Engineering	United Kingdom	16	2	6.2	11.8
Food Control	Netherlands	11	2	6.6	10.6
Int. Journal of Food Science and Technology	United Kingdom	6	2	3.6	5.3
Journal of Applied Microbiology	United Kingdom	23	1	4.0	6.7
Journal of Food Protection	USA	14	1	2.7	4.2
Microorganisms	Switzerland	7	1	4.9	6.4
Food Technology and Biotechnology	Croatia	7	1	2.3	4.0
Journal of Food Safety	USA	4	1	2.4	4.7
Journal of Food Processing and Preservation	USA	1	1	2.9	3.4

Source: Research data.

their work on the enrichment of Vitamin D3 (VD3) in Burrata and Giuncata cheeses. The analyses revealed that the cheeses were valid for the study, as it was possible to obtain good VD3 fortification during the production and storage of the cheeses for 2 weeks at 4°C.

The institutions that stood out most in promoting research related to Burrata cheese are shown on the map in Figure 4. The University of Basilicata, located in Potenza, was the Italian public university that published the most, with 10 articles in the area of this research, cited 229 times. Followed by the University of Bari Aldo Moro, with seven publications and 82 citations, and the University of Foggia, also in Italy, with seven publications and 170 citations.

The leading role of Italian research institutions in Figure 4 is noticeable, possibly due to the fact that it is considered the birthplace of this variety, being a reference in the production and quality of pasta filada cheeses.

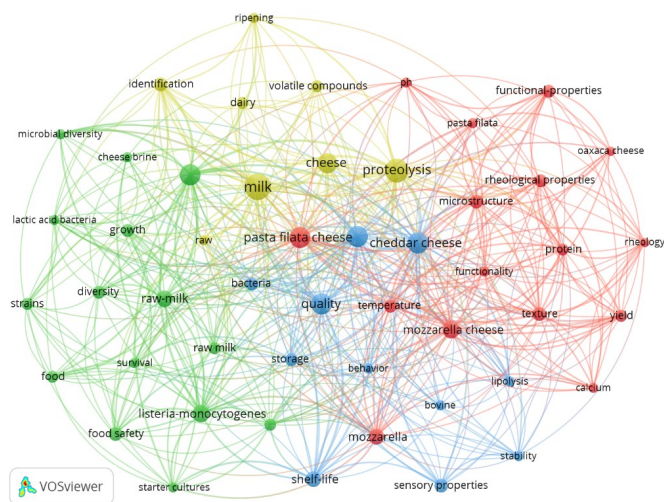


Figure 3. The 50 most cited keywords in articles related to Burrata cheese in the period from 2012 to 2022.

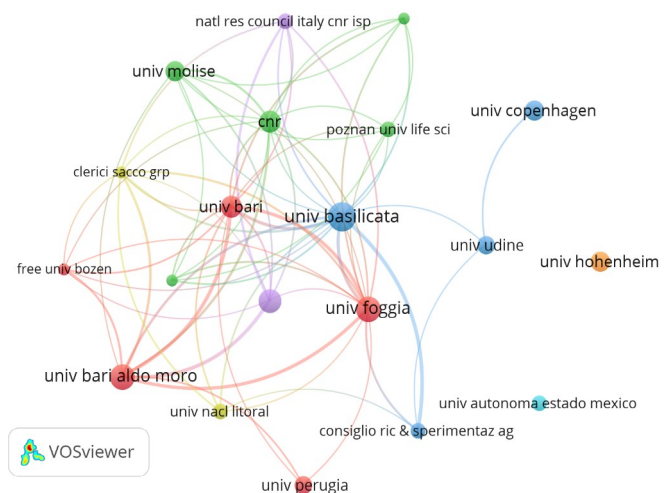


Figure 4. The 20 universities that carried out the most research related to Burrata cheese from 2012 to 2022.

Among them is the study by Costantino et al. (2020) from the University of Bari Aldo Moro, who evaluated the microbiological and sensorial aspects of the manufacture of Burrata cheese after the use of lactic acid bacteria that synthesize exopolysaccharides to successfully achieve a low-fat content without altering the traditional cheese flavor.

Costa et al. (2017), from the University of Foggia, evaluated technological strategies to increase the shelf life and quality of Burrata cheese through changes in the gas composition during storage and the addition of antimicrobial compounds in the filling and coating. Thus, it was found that the institutions with the highest number of citations belonged to countries such as Italy, corroborating the results of the most cited countries discussed previously.

3.1 Trends in the manufacture of pasta filada cheeses, with an emphasis on Burrata cheese

Massa filada cheeses—which mean “stretched dough”—can be made from cow, buffalo, goat, or sheep milk and are generally produced in large quantities in Eastern Europe, Turkey, Greece, the Balkans, and Italy (Biegalski & Cais-Sokolińska, 2023).

Pasta filada cheeses made from cow’s milk are, for example, *Fior di Latte* cheese (Cuffia et al., 2017), Burrata (Natrella et al., 2023), and Provolone del Monaco cheese (Manzo et al., 2019). Sheep’s milk is used to produce *Oscypek* cheese (Alegria et al., 2012) and *Kačkavalj* cheese (called *Cacciocavallo* in Italy) (Satric et al., 2023).

However, regardless of the milk used, a very important factor that has always been a difficulty for pasta filada cheese manufacturers is the extension of the products’ shelf life. However, this problem has become a trend in current research. And because this is an important challenge for the dairy industry, many articles address techniques for extending the shelf life of fresh food products and prolonging the shelf life of pasta filada cheeses.

With regard to Burrata, it is known that this cheese is quite perishable as it contains fresh cream and strips of Mozzarella inside, which promotes rapid growth of microorganisms and an incidence of oxidation (Natrella et al., 2020; Trani et al., 2016). Based on this, studies aim at technological solutions to propose a longer shelf life for this type of cheese, including the use of protective dairy bacteria that can combat spoilage bacteria (Minervini et al., 2017) or applying low temperatures during the processing stages (Natrella et al., 2022).

Furthermore, other researchers aimed to extend the shelf life of Burrata through the use of modified atmosphere packaging alone (MAP) or combined with lysozyme and ethylenediamine tetraacetic acid (EDTA) disodium salt (Conte et al., 2011). The combination of antimicrobial molecules, active coating, and MAP was tested by Costa et al. (2017), while Natrella et al. (2023) combined a mixed protective starter culture with MAP.

Furthermore, as it is a fresh cheese, handling during production must be very well carried out, with quality products and verified hygienic conditions. Rea et al. (2016) analyzed the manufacture of Burrata cheese in two dairies with different formulations, one being artisanal made with raw milk and cream

from whey and the other industrial with pasteurized milk and cream obtained by centrifugation. And they verified unsatisfactory microbiological characteristics, as they found high values of *Escherichia coli*, coagulase-positive *Staphylococcus*, and total bacteria count, among other pathogenic microorganisms in the cheeses produced, which made them unsuitable for commercialization and consumption.

Corroborating this, it is important to highlight the studies that aim to improve the Burrata cheese manufacturing process to reduce the fat percentage of this dairy product (Costantino et al., 2020). This is also the case with the research by Trani et al. (2016), who developed a technological protocol to produce a type of Burrata cheese with reduced fat and enriched with polyunsaturated fatty acids of vegetable origin without compromising the traditional flavor.

Another aspect that may be a trend for research with Burrata is the type of milk used, since this type of cheese is commonly produced with cow's milk, and studies can explore this production with other types of milk such as goat, sheep, or buffalo. However, no studies have yet been found dealing with this specific purpose.

4 CONCLUSIONS

By exploring scientific publications related to Burrata cheese, bibliometric analysis revealed insights into trends, collaborations, and gaps in research. The research revealed distinct periods of growth and decline in article production, suggesting changes in interest and research over time. The number of authors highlighted a field in development, with the majority of researchers contributing a limited number of works, indicating a space for the expansion and consolidation of the theme. Furthermore, Italian research institutions presented themselves as leaders in the production of articles. Journal analysis revealed that although Burrata research is evolving, it is still a growing area, as reflected by the dispersion of publications across a variety of academic outlets.

In doing so, bibliometric research presents an opportunity to identify future directions and potential collaborations, stimulating knowledge exchange and promoting sustainable growth in the field. Therefore, it contributes significantly to the understanding of the evolution of research on Burrata cheese and can serve as a guide for future studies and advances in the production, innovation, and appreciation of this pasta filata cheese.

REFERENCES

- Albenzio, M., Santillo, A., Caroprese, M., Braghieri, A., Sevi, A. & Napolitano, F. (2013). Composition and sensory profiling of probiotic Scamorza ewe milk cheese. *Journal of Dairy Science*, 96(5), 2792-2800. <https://doi.org/10.3168/jds.2012-6273>
- Alegria, Á., Szczesny, P., Maio, B., Bardowski, J., & Kowalczyk, M. (2012). Biodiversity in Oscypek, a Traditional Polish Cheese, Determined by Culture-Dependent and -Independent Approaches. *Applied and Environmental Microbiology*, 78, 1890-1898.
- Andronoiu, D. G., Botez, E., Nistor, O. V., & Mocanu, G. D. (2015). Ripening process of Cascaval cheese: compositional and textural aspects. *International Journal of Foods Science and Technology*, 52(8), 5278-5284. <https://doi.org/10.1007/s13197-014-1621-2>
- Atanu, J. (2020). Burrata cheese - mozzarella transformed. *International Journal of Fermented Foods*, 9(1), 13-17. <https://doi.org/10.30954/2321-712X.01.2020.2>
- Baker, H. K., Kumar, S., & Pandey, N. (2021). Thirty years of the Global Finance Journal: A bibliometric analysis. *Global Finance Journal*, 47, 100492. <https://doi.org/10.1016/j.gfj.2019.100492>
- Biegalski, J. & Cais-Sokolińska, D. (2023). Production of Sensorily Acceptable Pasta Filata Cheese with Partial Substitution of Sheep's Milk Powder in Different Forms. *Foods*, 12(9), 1766. <https://doi.org/10.3390/foods12091766>
- Braghieri, A., Pacelli, C., Riviezz, A. M., Di Cairano, M., & Napolitano, F. (2022). Promoting the direct sale of pasta filata cheese. *Journal of Dairy Science*, 105(9), 7334-7343. <https://doi.org/10.3168/jds.2021-21285>
- Brazil (1996). Ministry of Agriculture, Livestock and Supply. Ordinance No. 146 of March 7, 1996. Approve the attached Technical Regulations on the Identity and Quality of Dairy Products. Annex I - Technical Regulation on Identity and Quality of Cheese. *Official Gazette of the Union*.
- Brazil (2018). Ministry of Agriculture, Livestock and Supply. Normative Instruction N° 76, of November 26, 2018. Establishes general requirements for cheese manufacturing, from delivery and selection of milk to processing, packaging, labeling and transportation of products. *Official Gazette of the Union*.
- Chueke, G. V., & Amatucci M. (2015). What is bibliometrics? An introduction to the Forum. *Electronic Magazine of International Business*, 10(2), 1-5. <https://doi.org/10.18568/1980-4865.1021-5>
- Conte, A., Brescia, I., & Del Nobile, M. (2011). Lysozyme/EDTA disodium salt and modified-atmosphere packaging to prolong the shelf life of Burrata cheese. *Journal Dairy Science*, 94(11), 5289-5297. <https://doi.org/10.3168/jds.2010-3961>
- Costa, A., Lucera, A., Conte, A., Zambrini, A. V., & Nobile, M. A. (2017). Technological Strategies to Preserve Burrata Cheese Quality. *Coating*, 7(7), 97. <https://doi.org/10.3390/coatings7070097>
- Costantino, G., Calasso, M., Minervini, F., & De Angeliz, M. (2020). Use of Exopolysaccharide-Synthesizing Lactic Acid Bacteria and Fat Replacers for Manufacturing Reduced-Fat Burrata Cheese: Microbiological Aspects and Sensory Evaluation. *Microorganisms*, 8(10), 1618. <https://doi.org/10.3390/microorganisms8101618>
- Cuffia, F., George, G., Renzulli, P., Reinheimer, J., Meinardi, C., & Burns, P. (2017). Technological challenges in the production of a probiotic pasta filata soft cheese. *Foods Science and Technology*, 81, 111-117. <https://doi.org/10.1016/j.lwt.2017.03.039>
- Dambrósio, A., Quaglia, N. C., Saracino, M., Malcangi, M., Montagna, C., Quinto, M., Lorusso, V. & Normanno, G. (2013). Microbiological Quality of Burrata Cheese Produced in Puglia Region: Southern Italy. *Journal Food Protection*, 76(11), 1981-1984. <https://doi.org/10.4315/0362-028X.JFP-13-067>
- Di Cerbo, A., Miraglia, D., Marino, L., Stocchi, R., Loschi, A. R., Fischella, S., Cammentoni, N., Menchetti, L., Farneti, S., Ranucci, D., Branciarri, R., & Rea, S. (2020). "Burrata di Andria" PGI Cheese: Physicochemical and Microbiological Features. *Foods*, 9(11), 1694. <https://doi.org/10.3390/foods9111694>
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021a). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, 133, 285-296. <https://doi.org/10.1016/j.jbusres.2021.04.070>

- Donthu, N., Kumar, S., Pandey, N., & Gupta, P. (2021b). Forty year of the International Journal of Information Management: A bibliometric analysis. *International Journal of Information Management*, *57*, 102307. <https://doi.org/10.1016/j.ijinfomgt.2020.102307>
- Durango-Zuleta, M. M., Fuentes-Vanegas, M., Sepulveda-Valencia, J. U., & Herrera, C. X. M. (2022). Isolation, identification, and antimicrobial activity of lactic acid bacteria associated with two traditional Colombian types of cheese: Quesillo and double-cream cheese. *Food Science Technology*, *171*, 114119. <https://doi.org/10.1016/j.lwt.2022.114119>
- European Commission (2016). *Registration of a name in the Register of Protected Designations of Origin and Protected Geographical Indications (Burrata di Andria (IGP))*. European Commission.
- Faccia, M., Trani, A., Gambacorta, G., Loizzo, P., Cassone, A., & Caponio, F. (2015). Production technology and characterization of Fior di latte cheeses made from sheep and goat milks. *Journal of Dairy Science*, *98*(3), 1402-1410. <https://doi.org/10.3168/jds.2014-7953>
- Fusco, A. V., Chieffi, D., & De Angelis, M. (2022). Invited review: Fresh pasta filata cheeses: Composition, role, and evolution of the microbiota in their quality and safety. *Journal of Dairy Science*, *105*(12), 9347-9366. <https://doi.org/10.3168/jds.2022-22254>
- Manzo, N., Santini, A., Pizzolongo, F., Aiello, A., Marrazzo, A., Meca, G., Durazzo, A., Lucarini, M., & Romano, R. (2019). Influence of Ripening on Chemical Characteristics of a Traditional Italian Cheese: Provolone del Monaco. *Sustainability*, *11*(9), 2520. <https://doi.org/10.3390/su11092520>
- Medvedová, A., Koňuchová, M., Kvočiková, K., Hatalová, I., & Valík, L. (2020). Effect of Lactic Acid Bacteria Addition on the Microbiological Safety of Pasta-Filata Types of Cheeses. *Frontiers in Microbiology*, *11*, 612528. <https://doi.org/10.3389/fmicb.2020.612528>
- Minervini, F., Conte, A., Del Nobile, M. A., Gobetti, M., & De Angelis, M. (2017). Dietary Fibers and Protective Lactobacilli Drive Burrata Cheese Microbiome. *Applied Environmental Microbiology*, *83*(21), e01494-17. <https://doi.org/10.1128%2FAEM.01494-17>
- Natrella, G., Difonzo, G., Calasso, M., Costantino, G., Caponio, F., & Faccia, M. (2020). Evolution of VOC and Sensory Characteristics of Stracciatella Cheese as Affected by Different Preservatives. *Foods*, *9*(10), 1446. <https://doi.org/10.3390/foods9101446>
- Natrella, G., Gambacorta, G., & Faccia, M. (2022). Use of dry ice as an innovative technology to preserve the chemical and microbial characteristics of Burrata cheese. *Journal of Food Processing Preservation*, *46*(10), e16908. <https://doi.org/10.1111/jfpp.16908>
- Natrella, G., Gambacorta, G., & Faccia, M. (2023). Application of Commercial Biopreservation Starter in Combination with MAP for Shelf-Life Extension of Burrata Cheese. *Foods*, *12*(9), 1867.
- Rea, S., Marino, L., & Stocchi, R. (2016). Differences in chemical, physical and microbiological characteristics of Italian Burrata cheeses made in artisanal and industrial plants of Apulia Region. *Italian Journal of Food Safety*, *5*(3), 5879. <https://doi.org/10.4081%2Fijfs.2016.5879>
- Roila, R., Valiani, A., Ranucci, D., Ortenzi, R., Servili, M., Veneziani, G., & Branciarri, R. (2019). Antimicrobial efficacy of a polyphenolic extract from olive oil by-product against "Fior di latte" cheese spoilage bacteria. *International Journal of Food Microbiology*, *295*, 49-53. <https://doi.org/10.1016/j.ijfoodmicro.2019.02.013>
- Santanatoglia, A., Nzekoue, F. K., Alesi, A., Ricciutelli, M., Sagratini, G., Suo, X., Torregiani, E., Vittori, S., & Caprioli, G. (2023). Development of Innovative Vitamin D Enrichment Designs for Two Typical Italian Fresh Cheeses: Burrata and Giuncata. *Molecules*, *28*(3), 1049. <https://doi.org/10.3390/molecules28031049>
- Satric, A., Miloradovic, Z., & Mirkovic, M. (2023). Quality characteristics of 'Pasta-Filata' Serbian Kačkavalj cheese and regulatory compliance assessment. *Mljekarstvo*, *73*(1), 38-49. <https://doi.org/10.15567/mljekarstvo.2023.0105>
- Silva, N. F. N., Aguiar, K. S., & Pimentel, N. D. (2020). Milk quality, production process and physicochemical characteristics of Porungo, an artisanal cheese from the state of Sao Paulo, Brazil. *Journal of Dairy Research*, *87*(4), 480-483. <https://doi.org/10.1017/s0022029920001016>
- Trani, A., Gambacorta, G., & Gomes, T. F. (2016). Production and characterisation of reduced-fat and PUFA-enriched Burrata cheese. *Journal Dairy Research*, *83*(2), 236-241. <https://doi.org/10.1017/s0022029916000078>
- Uzun, P., Serrapica, F., Masucci, F., Assunta, B. C. M., Yildiz, H., Grasso, F., & Di Francia, A. (2020). Diversity of traditional Caciocavallo cheeses produced in Italy. *International Journal Dairy Technology*, *73*(1), 234-243. <https://doi.org/10.1111/1471-0307.12640>
- Zimanová, M., Greifová, M., Body, P., & E Herian, K. (2016). Technologie výroby parených syrov. *Chemické Listy*, *110*(4), 258-262.