EFFECT OF MANAGEMENT ON MILK SOMATIC CELL COUNTS (SCC) IN DAIRY COWS: A BIBLIOMETRIC ANALYSIS

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ABSTRACT

Extensive research has been conducted on somatic cell counts and under-health, with special reference to the effects of the management system. Our applied studies were surveyed on the management and milk somatic cell count (SCC) in dairy cows by February 2024 (The data were recovered from the Web of Science (WOS)). Aspects of investigation include the general criteria of the management system and SCC. Data was handled by the VOSviewer software; the top ten results were considered. Among 874 publications, the author Barkema H.W. had the highest number of published papers (41, 4.69%), and publications in 2021 were at the front (63,7.2%). USA participated with the highest number of publications (183, 20.9%), and most publications were in English (840, 96.1%). Utrecht University was the most affiliated department (42, 4.8%). WOS categories indicated that dairy animal science had the highest publications (518, 59.26%). Research articles were the most abundant form of agricultural sciences (557, 63.72%). Dairy and Animal Sciences had the highest number of citation topics (799, 91.41%). Most of the articles were published in Elsevier (407,46.5%), and the Journal of Dairy Science was ranked at the top (302,34.55%). The USA Agency was the most funded source (24, 2.74%). The results of the existing study help to evaluate the effect of the management system and somatic cell count in dairy cows. These data can also provide epidemiological information regarding the risk factors of subclinical mastitis.

Keywords: Cattle, Research, Bibliometric analysis, Publications

INTRODUCTION

Milk somatic cell counts, a reliable marker of udder condition, have received

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special attention on dairy animals (Halasa and Kirkeby, 2020; Smistad *et al.,* 2021). SCC is affected by many physiological factors such as season, lactation stage and parity (Smistad *et al.,* 2021). The impact of udder health management practice on herd SCC has been extensively studied (Dufour *et al.,* 2011). Moreover, milking and the effects of udder dry-off on clinical signs, behavior during milking, and decrease in milk production

have been studied (Skarbye *et al*., 2018). A lower bacterial count was observed on the teat skin that treated with foaming agents. Teat disinfection before milking using foaming agents could be of little use in early lactation for cattle herds raised at pasture (Fitzpatrick *et al.,* 2021). The relationship between herd and cow level factors, cow lying behavior, and risks of elevated SCC in housed lactating dairy cows showed a strong correlation between these factors and subclinical mastitis (Watters *et al.,* 2013). In automated milk systems, high SCC and intramammary infection are linked to a long dry period (El-khodery and Osman, 2008; Wagemann-Fluxá *et al.,* 2024). However, a dry-off management system has not been linked to the SCC in dairy cows (France *et al.,* 2022).

When expecting emerging trends in dairy research, an assessment of publication coherence and quality is necessary. Bibliometric analysis (BA) is a study that utilizes statistical analysis to judge the research productivity in a specific field (Drijvers *et al*., 2020). The expression "bibliometrics" is considered an alternative to "statistical bibliography" (1969). This style of analysis was used as guidelines for scientific literature regarding publications in a specific field. It have multiple assessment bases, supporting insight into the current state, and possible future productivity (Hsu *et al.,* 2020). On the literature level, different items are classified and analyzed as handling definite research topics and authors' contributions (Pelzer and Wiese, 2003; Crawley-Low, 2006; Krauskopf *et al.*, 2017; Schoenfeld-Tacher and Alpi, 2021). Bibliometric analysis has different types, and the frequently used techniques focused on authors and citations (Van Eck and Waltman, 2014). Citation analysis measures the impact of relevant research units in the scientific field, such as authors, journals, and institutions in the field. It is presumed that these research units receive more citations, which are considered the most significant, indicating greater effectiveness, rank, and quality (Donthu *et al.,* 2021). Additionally, co-citation analysis determines whether two

research units appear together in a bibliography, indicating a strong co-citation relationship (Van Eck and Waltman, 2014). Furthermore, co-occurrence analysis clarifies ideas that are commonly shared in the abstract, title, or even keywords of the article based on thematic clusters formed by the interaction between these theories and presents them as a network (Donthu *et al.,* 2021). Likewise, bibliographic coupling shows the current, old, and seminal studies in a co-citation analysis. It describes the existing state of intellectual structure in a specific scientific ideas (Boyack and Klavans, 2010). In addition, co-authorship analysis has been used to show social partnerships in the subject area (Rousseau *et al.,* 2018).

Contrary to conventional reviews, which have analysis bias, bibliometric analysis adds an evaluation of a specific publication (Zupic and Čater, 2015; Donthu *et al.,* 2021). In the last decade, few bibliometric studies on veterinary studies were presented. This bibliometric analysis is aimed to assess the association between management and levels of milk SCC in dairy cows.

Methodology
Data resource and search approach
Data was retrieved by recognizing the databases and choosing suitable search strategy techniques. The publications on management and levels of milk SCC in dairy cows were recovered from the WOS database till February 2024. The following terms were used: ("MANAGEMENT", "DAIRY COWS", "SOMATIC CELL COUNT"). The further steps for data saving and handling were carried out according to standard methodology (Almejnah *et al.,* 2023).

Data Analyses
All items of the result analysis created by WOS were included in this bibliometric study. A commercial software (VOSviewer, 1.6) was utilized for data analysis. A total of 2947 publications were subjected to analysis. A cluster analysis was performed and generated social network maps (links and nodes) for all analysis items (Mulet-Forteza

et al., 2019). The VOSviewerprogram provides clusters by analyzing the rate of the identical keywords present in different articles. Either two or four frequencies of the keywords in a paper were settled. Various nodes in the maps characterize variables (keywords, institution, and country). The size of nodes indicates the total of publications (Liang *et al.,* 2017). Connections between nodes and colors are indicators of co-citation and co-occurrence (Gao *et al.,* 2019).

RESULTS

A total of 874 documents were extracted from WOS until February 2024 using the terms" Dairy cows", "Management", and "Somatic cell count).

Authors
The 874 publications related to management and somatic cell count and their implications in global research were identified. The author Barkema H. W. published the highest number of papers (41, 4.69%), followed by Hogeveen H. (36, 4.11%), (Table 1). Figure 1 shows the co-authorship networks for the 874 publications about the relationship between management and milk SCC.

Publishing year
The investigation displays the effect of management and somatic cell count publications until February 2024. Sixty-three publications were published in 2021 (7.22%), followed by 61 articles published in 2022 (6.9%). The top ten years of publications on the research topic are presented in Table 2.

Institutions
The top ten institutions in terms of affiliation with publications are presented in Figure 2. The leading institution for publishing the link between somatic cell numbers and management is Utrecht University.

Funding Agencies
The 874 articles were identified in the WOS. The greatest number of publications received funding were from the United States, Department of Agriculture (USDA) (24, 2.74%). The top ten agencies are listed in Figure 3.

Countries of publication
Seventy-two countries related to the present study and their participation in the present research topic were identified. The top countries were the USA, Canada, the Netherlands, Germany, Italy, Sweden, England, Denmark, France, and Brazil. USA contributed 183 (20.93%) of the total publications on the association between management and levels of somatic cell count (Figure 4).

WOS Categories
The 874 publications related to this research topic are presented in Table 3. Agriculture, dairy, and animal science was the prevalent WOS category (518, 59.2%); however, biology was the least category (6, 0.68%). The most frequent research areas were agriculture (557; 63.7%), food science technology (361;41.3%), veterinary sciences (357; 40.84%), zoology (32;3.6%), infectious diseases (12;1.3%), science technology (8; 0.9%), chemistry (7; 0.8%), biotechnology (6; 0.68%), life sciences (6; 0.68%), and others (5; 0.57%).

Citations
Based on the citation topics, Figure 5 demonstrates the extremely cited papers. Dairy and Animal Sciences were the most cited topics (799, 91.4%). A visualization of the co-citation network is shown in Figure 6. It shows that the highest cited reference was Schukken *et al.* (2003). The top cited institutes and countries are presented in Figures 7 and 8, respectively.

Document Type
Among 874 publications, research papers were the most frequent (785,89.8%), followed by review articles (59,6.75%), proceedings papers (41, 4.6%), book chapters (7, 0.8%), and early access articles (1, 0.1%).

Publishers
From a total of 874 papers in the present study, the publishers are presented in figure 9. Elsevier is the top publisher.

Journal
Exploration of 874 publication titles revealed that the most frequent journal was Journal of Dairy Science (302,34.43%). The top ten journals are presented in Figure 10.

DISCUSSION

Milk SCC counts and their association with management practices in dairy cattle have received great global interest (Gussmann *et al.,* 2020; Deng *et al.,* 2022). Meta-analyses and bibliometric analyses are popular methodologies used in scientific research. Bibliometric analysis permits precise evaluation of a huge input of research results (Zan, 2012). So, in an appropriate approach for bibliometric studies in veterinary medicine, the publications on the association between management practices and intramammary infections should be explained and categorized. In this study, we presented an overview of worldwide studies on the selected topic in a form of bibliometric analysis.

Among the authors in present publications, Barkema H. W. participated in the top number of published articles. He is the author of 483 peer-reviewed articles in food science and microbiology. At the author level, the co-authorship network is similarly addressed in this analysis. This kind of bibliometric analysis has been used to determine the social features of the investigators (Lu and Wolfram, 2012).Contradictory to co-citation assessment, the co-authorship showed the co-cited publications as thematic clusters. An additional advantage of this co-authorship analysis is that the shared reference(s) between the two articles stays the same and does not change with time (Lu and Wolfram, 2012).

The present analysis showed a minor ongoing increase in the studies since 2020, with quite similar findings for articles published in 2021. The interest in publication in the field is highest; the highest number of publications have been funded from the United States Department. Funding agencies plays an important role in the advancement of scientific research (Gläser and Velarde, 2018). USA, Canada, and the Netherlands had the highest total publications; this reflects the great interest in the scientific research community and availability of funding. Additionally, in these countries, the economic role of dairy science is the best (De Vries and Marcondes, 2020).

A total of 874 studies from WOS were extracted by February 2024. We used the WOS Core collection because it is classified as the most perfect database, which is required for performing outstanding bibliometric analysis. WOS result analysis permits us to evaluate the performance of authors and citations. Furthermore, WOS incorporates 252 categories of sciences. The greatest publications were recorded in the Journal of Dairy Science (302, 34.43%). The journal may have more than one category because classification of the journal into so many categories is difficult. Therefore, each article can be included in all categories of publication (Birkle *et al.,* 2020).

The Dairy Sciences are the main topic of citation. Animal sciences involve all topics correlated to different animals. Food science is also at the top place for citations. This reflects the importance of the SCC for assessment of udder health and quality of milk. This suggestion is supported by reports concluding that SCC and differential SCC are important for monitoring the udder health in dairy cows (Pegolo *et al.,* 2021; Bisutti *et al.,* 2022).

Citation analysis can be frequently applied in bibliometrics, as such a technique assesses publication, author, institution, and journal (Hallinger and Kovačević, 2021). It is used to

demonstrate that study category X is highly affected by study Y (Zupic and Čater, 2015). Henry Small is the first researcher who applied the co-citation analysis to recognize the weaknesses and strengths of institutions (Surwase *et al.,* 2011; Donthu *et al.,* 2021). In the present analysis, co-citation analyses were implemented to detect the construction of the study focused on the effect of management on SCC and intramammary infection.

Regarding publication type in the current study, original articles were at the top. This seems quite similar to what is commonly known by researchers in other fields of study. Research papers are usually more detailed and thorough than reviews are. A research paper is usually peer-reviewed, but a review paper is not always available. Generally, research papers are more formal than review papers (Booth *et al*., 2003;Ömer Gülpınar, 2013).

At the publisher level, most of the articles (407) were published in Elsevier till 2024. Elsevier is a top publisher that hosts the most reputable scientific journals. Thus,

publication in Elsevier is anticipated to be widely distributed. Journals of Elsevier are usually the first choice for contributors. Regarding the top publication, the Journal of Dairy Science was at the top, but Acta Veterinaria Scandinavica was the lowest. The Journal of Dairy Science publishes papers dealing with clinical practice and development of scientific knowledge in dairy research (Kononoff, 2021).

In the present analysis, we applied co-occurrence analysis to identify the highest emphasized content, topics, and keywords in the selected publication regarding management and their association with SCC levels. Co-occurrence analysis affords a vision about the topics and ideas, which can be used in future studies (Wang and Chai, 2018).To conclude, this bibliometric review on the association between the management and the level of milk SCC in dairy cows is considered the first approach in this respect. This report may provide information on the contributing factor of subclinical mastitis; therefore, further studies on other risk factors for increased SCC and subclinical mastitis.
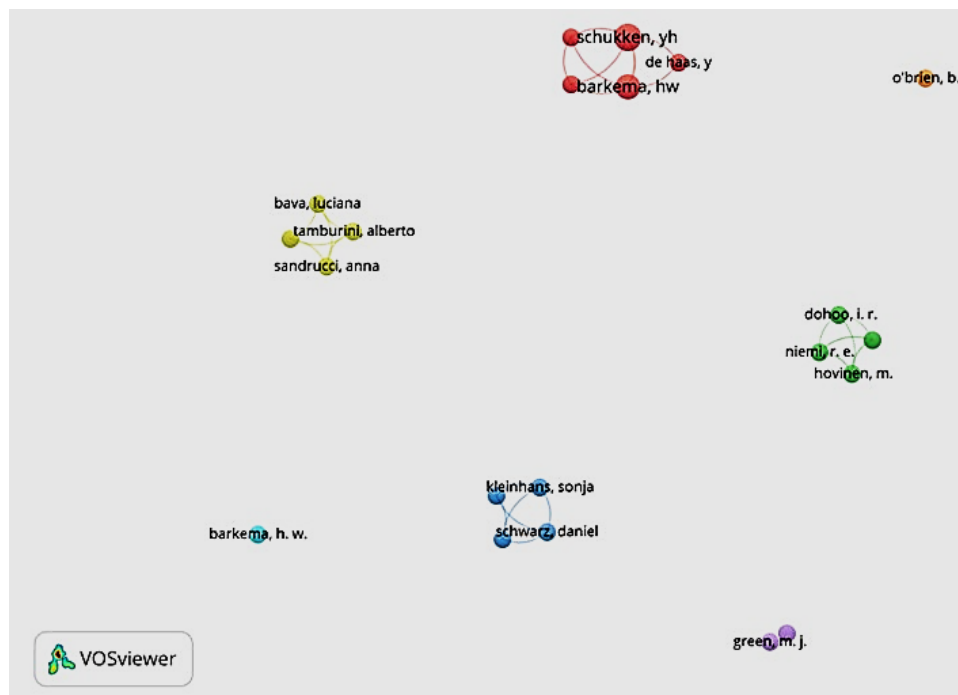

Figure 1. VOSviewer diagram showing authors contributing research on the influence of management on SCC in dairy cows.
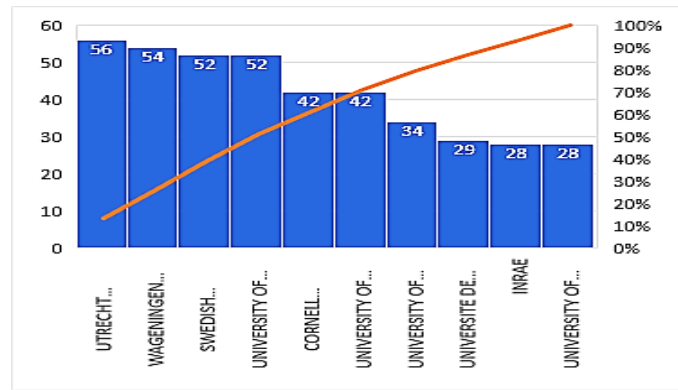
Figure 2: Top ten institutions affiliated with the publications on the association between management and somatic cell count in dairy cows.
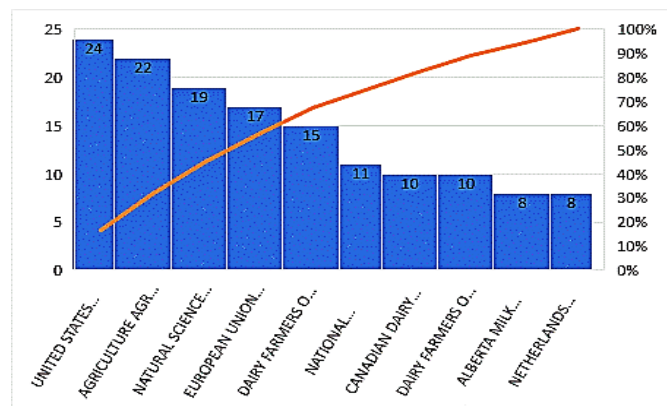

Figure 3: Top ten funding agencies on the publication of management and its association with somatic cell count in dairy cows.
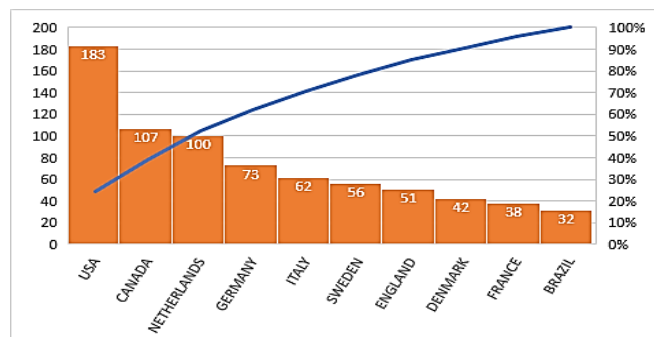

Figure 4: Top ten countries and regions on the publication of management and its association with somatic cell count in dairy cows.
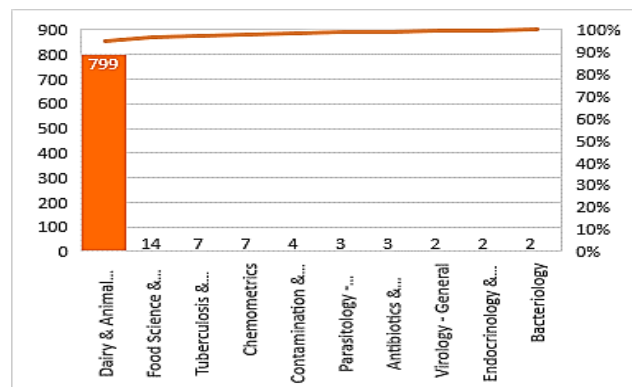

Figure 5: Citation topic on the publication of management and its association with somatic cell count in dairy cows.
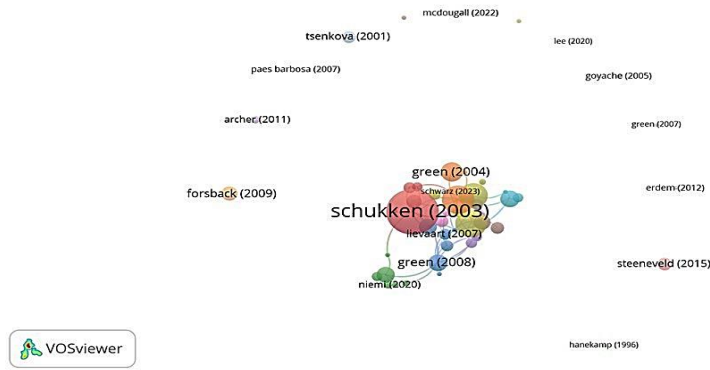
Figure 6: Citation topics of authors regarding the effect of management on somatic cell counts and subclinical mastitis in dairy cows.
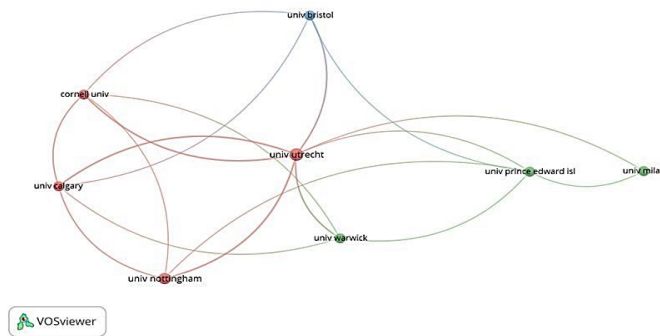

Figure 7: VOSviewer diagram shows the most cited organization on the effect of management on somatic cell counts and subclinical mastitis in dairy cows.
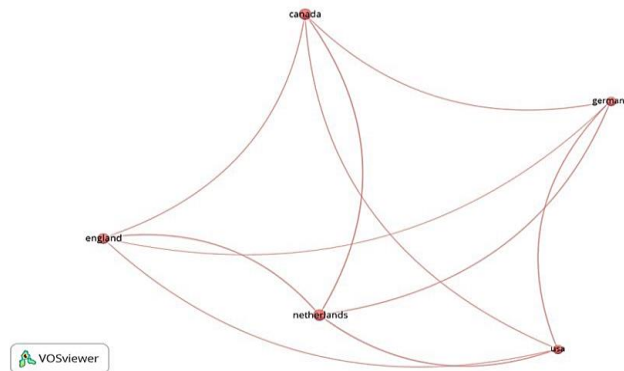

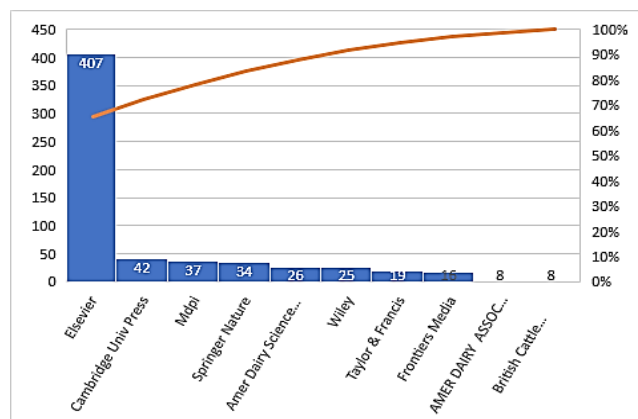**Figure 8**: The highest cited country on the effect of management on somatic cell counts in dairy cows.

Figure 9: Publishers of papers on the effect of management on somatic cell counts in dairy cows.
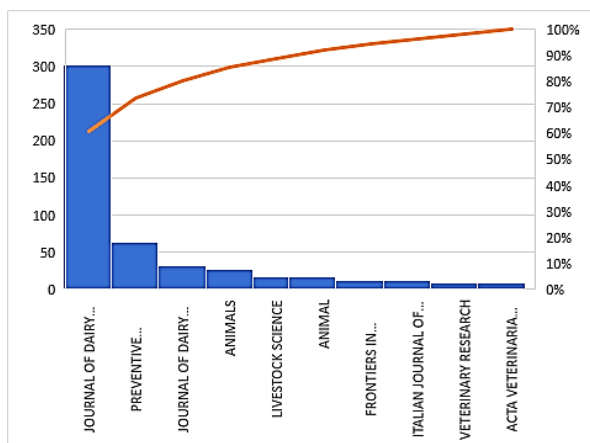
Figure 10: Publication title (Journals) on the effect of management on somatic cell counts in dairy cows.

Table 1: Top ten authors' contribution on the effect of management on somatic cell counts and subclinical mastitis in dairy cows.

Authors	Record Count	% of 874
Barkema HW	41	4.691
Hogeveen H	36	4.119
Green MJ	29	3.318
Lam TJGM	23	2.632
Bradley AJ	22	2.517
Schukken YH	22	2.517
Kelton DF	21	2.403
Emanuelson U	20	2.288
Dufour S	17	1.945
Keefe GP	16	1.831

Table 2: Top ten years of publication on the effect of management on somatic cell counts and subclinical mastitis in dairy cows.

Publication Years	Record Count	% of 874
2021	63	7.208
2022	61	6.979
2023	55	6.293
2020	54	6.178
2017	46	5.263
2018	46	5.263
2013	45	5.149
2019	44	5.034
2010	38	4.348
2011	38	4.348

Table 3: Web of science categories on the effect of management on somatic cell counts and subclinical mastitis in dairy cows.

Web of Science Categories	Record Count	% of 874
Agriculture Dairy Animal Science	518	59.268
Food Science Technology	361	41.304
Veterinary Sciences	357	40.847
Agriculture Multidisciplinary	35	4.005
Zoology	32	3.661
Infectious Diseases	12	1.373
Agronomy	10	1.144
Multidisciplinary Sciences	7	0.801
Agricultural Economics Policy	6	0.686
Biology	6	0.686

Authors' contribution

The authors contributed equally to the present investigation.

Conflict of interest

The authors declare that there is no conflict of interest.

REFERENCES

Almejnah, O.; Saed, H.A.; Marzok, M., Almubarak, A.; Kandeel, M.; Shosha, S.; El-khodery, S. and Farag, A. (2023): Current Profiling of Research on Donkeys and Its Implications in Global Studies Based on Bibliometric Analysis. Journal of Advanced Veterinary Research, 13(9), 1835-1841.

Birkle, C.; Pendlebury, D.A.; Schnell, J. and Adams, J. (2020): Web of Science as a data source for research on scientific and scholarly activity. Quantitative Science Studies 1, 363.https://doi.org/10.1162/qss_a_00018

Bisutti, V.; Vanzin, A.; Toscano, A.; Pegolo, S.; Giannuzzi, D.; Tagliapietra, F.; Schiavon, S.; Gallo, L.; Trevisi, E.; Negrini, R. and Cecchinato, A. (2022): Impact of somatic cell count combined with differential somatic cell count on milk protein fractions in Holstein cattle. Journal of Dairy Science 105, 6447.https://doi.org/10.3168/jds.2022-22071

*Booth, W.C.; Colomb, G.G, and Williams, J.M. (2003):*The craft of research. University of Chicago press. https://doi.org/10.3168/jds.2022-22071

*Boyack, K.W. and Klavans, R. (2010):*Co‐citation analysis, bibliographic coupling, and direct citation: Which citation approach represents the research front most accurately? Journal of the American Society for information Science and Technology 61,

2389.https://doi.org/10.1002/asi.21419

Crawley-Low, J. (2006): Bibliometric analysis of the American Journal of Veterinary Research to produce a list of core veterinary medicine journals. Journal of the Medical Library Association 94, 430.

De Vries, A. and Marcondes, M.I. (2020): Review: Overview of factors affecting productive lifespan of dairy cows. Animal 14, s155.https://doi.org/10.1017/S1751731119003264

*Deng, Z.; Wang, K.; Xu, C.; Cao, J. and Ma, C. (2022):*Prevalence and risk factors associated with high somatic cell count in Chinese dairy herds. Front Vet Sci 9, 967275.https://doi.org/10.3389/fvets.2022.967275

Donthu, N.; Kumar, S.; Mukherjee, D.; Pandey, N. and Lim, W.M. (2021): How to conduct a bibliometric analysis: An overview and guidelines. Journal of business research 133, 285.https://doi.org/10.1016/j.jbusres.2021.04.070

Drijvers, P., Grauwin, S., and Trouche, L. (2020): When bibliometrics met mathematics education research: the case of instrumental orchestration. Zdm, 1.https://doi.org/10.1007/s11858-020-01169-3

Dufour, S.; Fréchette, A.; Barkema, H.W.; Mussell, A. and Scholl, D.T. (2011): Invited review: effect of udder health management practices on herd somatic cell count. J Dairy Sci 94, 563.https://doi.org/10.3168/jds.2010-3715

El-khodery, S.and Osman, S. (2008): Acute coliform mastitis in buffaloes (Bubalus bubalis): clinical findings and treatment outcomes. Tropical Animal Health and Production 40:93-9. https://doi.org/10.1007/s11250-007-9057-6

Fitzpatrick, S.R.; Garvey, M.; Flynn, J.; O'Brien, B. and Gleeson, D. (2021): Effect of Pre-Milking Teat Foam Disinfection on the Prevention of New Mastitis Rates in Early Lactation. Animals (Basel)

11.https://doi.org/10.3390/ani110925 82

France, A.E.; Dufour, S.; Kelton, D.F.; Barkema, H.W.; Kurban, D. and DeVries, T.J. (2022): Effect of dry-off management on milking behavior, milk yield, and somatic cell count of dairy cows milked in automated milking systems. J Dairy Sci 105, 3544.https://doi.org/10.3168/jds.2021-21383

Gao, Y.; Ge, L.; Shi, S.; Sun, Y.; Liu, M.; Wang, B.; Shang, Y.; Wu, J. and Tian, J. (2019): Global trends and future prospects of e-waste research: a bibliometric analysis. Environmental Science and Pollution Research 26, 17809.https://doi.org/10.1007/ s11356-019-05071-8

Gläser, J., and Velarde, K. S. (2018): Changing funding arrangements and the production of scientific knowledge: introduction to the special issue. pp. 1. Springer. https://doi.org/10.1007/s11024-018-9344-6

Gussmann, M.; Kirkeby, C.; Schwarz, D.; Farre, M. and Halasa, T. (2020): A simulation study to investigate the added value in using differential somatic cell count as an additional indicator for udder health management in dairy herds. Preventive Veterinary Medicine 182, 105090.https://doi.org/10.1016/j.prevet med.2020.105090

Halasa, T. and Kirkeby, C. (2020): Differential Somatic Cell Count: Value for Udder Health Management. Fronties in Veterinary Science 7, 609055.https://doi.org/10.3389/fvets.2 020.609055

Hallinger, P. and Kovačević, J. (2021): Science mapping the knowledge base in educational leadership and management: A longitudinal bibliometric analysis, 1960 to 2018. Educational Management Administration & Leadership 49, 5.https://doi.org/10.1177/17411432198 59002

Hsu, Y.-H. E.; Yang, Y.-T.; Wang, M.-H. and Ho, Y.-S. (2020): Bibliometric analysis of highly cited publications in health policy and services. COLLNET Journal of Scientometrics and Information Management 14, 177.https://doi.org/10.1080/09737766. 2020.1816513

Kononoff, P.J. (2021): Journal of Dairy Science 2020 Editorial Report. J Dairy Sci 104, 3761.https://doi.org/10.3168/jds.2021-20256

Krauskopf, E.; Garcia, F. and Funk, R. (2017): Bibliometric analysis of multi-language veterinary journals. Transinformação 29, 343. https://doi.org/10.1590/2318-08892017000 300011

Liang, Y.-D.; Li, Y.; Zhao, J.; Wang, X.-Y.; Zhu, H.-Z. and Chen, X.-H. (2017):Study of acupuncture for low back pain in recent 20 years: a bibliometric analysis via CiteSpace. Journal of pain research, 951.https://doi.org/10.2147/JPR.S1328 08

Lu, K. and Wolfram, D. (2012): Measuring author research relatedness: A comparison of word‐based, topic‐based, and author cocitation approaches. Journal of the American Society for Information Science and Technology 63, 1973.https://doi.org/ 10.1002/asi.22628

Mulet-Forteza, C.; Genovart-Balaguer, J.; Merigó, J.M. and Mauleon-Mendez, E. (2019): Bibliometric structure of IJCHM in its 30 years. International Journal of Contemporary Hospitality Management 31, 4574.https://doi.org/10.1108/IJCHM-10-2018-0828

Ömer Gülpınar, A.G.G. (2013):How to write a review article? Turkish Journal of Urology 39(Supplement 1): 44-8. https://doi.org/10.5152/tud.2013.054

Pegolo, S.; Giannuzzi, D.; Bisutti, V.; Tessari, R.; Gelain, M.E.; Gallo, L.; Schiavon, S.; Tagliapietra, F.; Trevisi,

E.; Ajmone Marsan, P.; Bittante, G. and Cecchinato, A. (2021): Associations between differential somatic cell count and milk yield, quality, and technological characteristics in Holstein cows. Journal of Dairy Science 104, 4822.https://doi.org/10.3168/jds.2020-19084

Pelzer, N.L. and Wiese, W.H. (2003): Bibliometric study of grey literature in core veterinary medical journals. Journal of the Medical Library Association 91, 434.

Pifer, R.; Shimizu, K. and Pifer, L. (1994): Public attitudes toward animal research: Some international comparisons. Society & Animals 2, 95.https://doi.org/10.1163/156853094X00126

Pritchard, A. (1969): Statistical bibliography or bibliometrics. Journal of documentation 25, 348.

Rousseau, R.; Egghe, L. and Guns, R. (2018): Becoming metric-wise: A bibliometric guide for researchers. Chandos Publishing.

Schoenfeld-Tacher, R.M. and M. Alpi, K. (2021): A 45-year Retrospective Content Analysis of JVME Articles. Journal of Veterinary Medical Education 48, 729. https://doi.org/10.3138/jvme-2020-0073

Schukken YH, Wilson DJ, Welcome F, Garrison-Tikofsky L, Gonzalez RN. Monitoring udder health and milk quality using somatic cell counts. Vet Res. 2003 Sep-Oct;34(5):579-96. doi: 10.1051/vetres:2003028. PMID: 14556696.

Skarbye, A.P.; Krogh, M.A. and Sørensen, J.T. (2018): The effect of individual quarter dry-off in management of subclinical mastitis on udder condition and milk production in organic dairy herds: A randomized field trial. Journal of Dairy Science 101, 11186.https://doi.org/10.3168/jds.2018-14794

Smistad, M.; Sølverød, L.; Inglingstad, R.A. and Østerås, O. (2021): Distribution of somatic cell count and udder pathogens in Norwegian dairy goats. Journal of Dairy Science 104, 11878.https://doi.org/10.3168/jds.2021-20549

Surwase, G.; Sagar, A.; Kademani, B. and Bhanumurthy, K. (2011): Co-citation analysis: An overview.

Van Eck, N.J. and Waltman, L. (2014): Visualizing bibliometric networks. In Measuring scholarly impact: Methods and practice, pp. 285. Springer. https://doi.org/10.1007/978-3-319-10377-8_13

Wagemann-Fluxá, C.A.; Kelton, D.F. and DeVries, T.J. (2024): Associations of cow- and herd-level factors during the dry period with indicators of udder health in early-lactation cows milked by automated milking systems. Journal of Dairy Science 107, 459. https://doi.org/10.3168/jds.2023-23796

Wang, M. and Chai, L. (2018): Three new bibliometric indicators/approaches derived from keyword analysis. Scientometrics 116, 721. https://doi.org/10.1007/s11192-018-2768-9

Watters, M.E., Meijer, K.M.; Barkema, H.W.; Leslie, K.E.; Von Keyserlingk, M.A. and Devries, T.J. (2013): Associations of herd- and cow-level factors, cow lying behavior, and risk of elevated somatic cell count in free-stall housed lactating dairy cows. Preventive Veterinary Medicine 111, 245.

Zan, B. (2012): A comparative bibliometric analysis study in scinentific disciplines at Turkey. Unpublished doctoral thesis). Ankara University, Ankara.https://doi.org/10.1016/j.prevetmed.2013.05.015

Zupic, I. and Čater, T. (2015): Bibliometric methods in management and organization. Organizational research methods 18, 429.https://doi.org/10.1177/1094428114562629

تأثير الرعاية على عدد خلايا الحليب الجسدية (SCC) في أبقار الألبان: تحليل ببليومتري

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تم إجراء أبحاث واسعة النطاق على عدد خلايا الحليب الجسدية و صحة الضرع، مع إشارة خاصة إلى تأثيرات نظام الرعاية. شملت دراستنا الدراسات التطبيقية حول إلرعاية وعدد خلايا الحليب الجسدية (SCC) في أبقار الألبان بحلول فبراير ٢٠٢٤. وتم جمع البيانات من قاعدة بيانات (WOS) Web of Science. وشملت جوانب التحقيق المعايير العامة لنظام الرعاية وSCC. تم التعامل مع البيانات الخاصة بكل فقرة مدروسة باستخدام برنامج VOSviewer، مع الأخذ في الاعتبار النتائج العشرة الأولى لكل مادة. من بين ٨٧٤ منشورا، المؤلف باركيما إتش حصلت على أكبر عدد من الأبحاث المنشورة (٤١، ٤,٦٩٪)، ومنشورات عام ٢٠٢١ (٦٣، ٧,٢٪) كانت في المقدمة. شاركت الولايات المتحدة الأمريكية بأكبر عدد من المنشورات (١٨٣، ٢٠,٩٪)، وكانت معظم المنشورات باللغة الإنجليزية (٨٤٠، ٩٦,١٪). وكانت جامعة أوتريخت هي القسم الأكثر انتساباً (٤٢,٤,٨٪). أشارت فئات WOS إلى أن علوم حيوانات الألبان (٥١٨، ٥٩,٢٦٪) حصلت على أعلى المنشورات. وكانت المقالات البحثية هي الأكثر وفرة في العلوم الزراعية (٥٥٧، ٦٣,٧٢٪). حصلت علوم الألبان والحيوان على أعلى موضوعات الاقتباس (٧٩٩، ٩١,٤١٪). حصلت Elsevier على أعلى المنشورات (٤٠٧، ٤٦,٥٪)، وتم وضع مجلة Dairy Science في أفضل المجلات (٣٠٢، ٣٤,٥٥٪). وكانت الوكالة الأمريكية المصدر الأكثر تمويلا (٢٤، ٢,٧٤٪). ساعدت نتائج الدراسة الحالية في تقييم تأثير نظام الرعاية وعدد خلايا الحليب الجسدية في أبقار الألبان حيث يمكن أن توفر هذه البيانات أيضًا معلومات وبائية فيما يتعلق بعوامل خطر التهاب الضرع تحت الإكلينيكي.