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BIBLIOMETRIC ANALYSIS OF RESEARCH PRODUCTIVITY OF ACADEMIC STAFF IN COLLEGE OF ANIMAL SCIENCE AND LIVESTOCK PRODUCTION, FEDERAL UNIVERSITY OF AGRICULTURE, ABEOKUTA, OGUN STATE. NIGERIA

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**BIBLIOMETRIC ANALYSIS OF RESEARCH PRODUCTIVITY OF ACADEMIC
STAFF IN COLLEGE OF ANIMAL SCIENCE AND LIVESTOCK PRODUCTION,
FEDERAL UNIVERSITY OF AGRICULTURE, ABEOKUTA, OGUN STATE. NIGERIA
BY**

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Abstract

This study is based on the bibliometric analysis on research productivity of Academic Staff in the Federal University of Agriculture, Abeokuta. The main objectives of the study are to determine the publication output of academic staff in the College of Animal Science and Livestock Production from 2005-2019 to ascertain the impact factor of their academic staff research output, to determine the academic staff publication trend from 2005-2019 and to ascertain the citations of the academic staff research publication. Data was collected from Google Scholar database using Hazing's Publish or Perish software. Literatures written within a period of fourteen (14) years from 2005-2019 were perused. The study consisted of a total number of 63 academic staff of the college. Data collected were analyzed and presented using tables, charts and graphs for interpretation. The study revealed the number of publications, years of publication, number of citations and the impact factor of each staff. The study as well made outstanding recommendations which included making sure that reports are generated using bibliometric tools in order to ascertain the contribution of the academic staff in scholarly communications and supporting research outcome and productivity through the provision of adequate facilities and materials, to facilitate the dissemination of scholarly communication.

Keywords: Bibliometrics, Bibliometric analysis, Research and Research productivity.

Introduction

The concept of bibliometrics was derived from the two Greek words which are biblio for biblio which means book and metricus for metrics which means measurement. Pritchard, (1969) as cited in Saleem, M. M.; Pervaiz, M.; Baig, B.; Khan, A.W. and Malik, B. A. (2018) defines bibliometrics as the application of mathematical and statistical tools to evaluate information bearing materials (printed and non-printed) in order to determine or assess the significant of such materials. Bibliometrics as a concept is a field of study in library and information science specifically used to study the growth of literature in a particular subject, the quantity and quality of literature that is contributed by number of individual researchers, by groups of researchers, across institutions or countries. Bibliometric analysis according to Swain and Panda (2012) is a tool use in the identification of the numbers of research publications, the age, the citation, the impact factor as well as any other important features that is of interest to the research publication under study. It helps in demonstrating the significant of research in an academic environment.

In addition, bibliometrics as a statistical tool for analyzing information materials enables the library and librarian in making decision. This is because, it serves as selection tools for the library administration in knowing the specific information resources, help in personnel

management, library building and in turn improve library services (Mahapatra, 2009). Bibliometric analysis is viewed as one of the best means of evaluating and assessing research productivity of an individual author, institution, country and journal publication with the aim of identifying the pattern and quality of the research output.

Research is an essential component of development, advancement, innovation, as well as extending frontiers of knowledge; this is because research is the process that involves careful and systematic collection, analyzing and interpretation of data. It is also viewed as a systematic investigation into a phenomenon that results in the creating of new knowledge for the progress of man and his environment (Ibidapo-Obe, 2010). Research enables academic staff to contribute to the advancement of the society, get recognition and appreciation by colleagues in the profession, acquire a job, get a job promotion, or even retain a job.

Research productivity on the other hand refers to the outcome in the numbers of publication researchers produce over a period of time, which come in form of journal articles, conference proceedings, academic books, presentation of papers and any other research output that promote efficiency (Harman, 2010). Research serves as avenue for academic staff in any university to be successful. This is because research helps to develop and reinforce skills needed for the generation of knowledge. Okenedo, 2015 opined that scholarly communication of research in the form of books, chapters in books, technical reports, journal articles, conference papers, proceedings, as well as supervision of students are the main sources through which academic staff of the university contributes immensely to the body of knowledge.

The developmental role of academic staff of any university cannot be over emphasized, they are charged with the responsibility of teaching and undertaking research for the advancement of knowledge. They are professionally responsible for impacting knowledge to students of any higher institutions as well as conduct research and publish the outcome of the research findings which is used for their academic elevation. Academic staff in the university is one of the resources used in the realization of the aims and objective of the university in teaching, learning, research and community development. (Okiki, 2013).

Statement of the Problem

Academic staffs in any university all over the world are expected to carry out research as well as communicating the research findings in reputable publishing outlets. This is because research productivity has become crucial in determining academic staff promotion, appointment, career advancement as well as the rating of the university. Studies have shown that bibliometric analysis has not been carried out on academic staff research output in colleges of animal science and livestock production. It is therefore, imperative to carry out the bibliometric analysis of academic staff research productivity in the College of Animal Science and Livestock Production, Federal University of Agriculture, Abeokuta in order to determine their research pattern and productivity.

Objectives of the Study

1. To determine the publication output of academic staff in the College of Animal Science and Livestock Production from 2005 – 2019.
2. To ascertain the impact factor of their academic staff research output.
3. To determine the academic staff publication trend from 2005 -2019.

4. To ascertain the citation of academic staff research publication.

Scope of the study

The study focuses on the bibliometric analysis of academic staff research publications in the field of animal sciences in the College of Animal Science and Livestock Production, Federal University of Agriculture, Abeokuta. The coverage of the study is restricted to data retrieved from Google Scholar database for period of fourteen (14) years from 2005-2019.

Limitation of the study

The study does not include research publications of the academic staff in printed format. That is, research publication that appears in local journal and other printed sources.

Literature Review

Bibliometric analysis is statistical tools that are now established as a scientific specialty as well as an integral part of research evaluation methodology especially within the scientific and applied fields. The methods are used increasingly when studying various aspects of science and also in the way institutions and universities are ranked worldwide. There are number of studies which have been completed with the outcome of literature, it is now possible to analyze the bibliometric method by using its own methodology.

Bibliometrics is a term that was coined by Alan Pritchard in 1969 to describe the quantification of discrete data publication elements of the processes of written communication. One seminal work related to bibliometric is that of Francis Narin's *Evaluative Bibliometrics: The Use of Publication and Citation Analysis in the Evaluation of Scientific Activity*, published in 1976. It outlines many bibliometric measures still in use for evaluation of productivity and impact.

It is also viewed as an attempt to quantitatively assess the academic quality of journals or authors by statistical methods such as citation rate. Care must be taken to first suitably define quality criteria and then suitably implement them by selecting a suitable empirical basis; else misunderstanding on the meaning of quality can occur. The most elementary metric related to publication data is simply the number of publications by an author or group of authors. This metric, based on the document-level unit of analysis, which can be further refined to denote publication types such as peer-reviewed journal articles, books or book chapters, dissertations, trade publications, and conference abstracts, among others.

Today, bibliometrics refers to quantitative analysis of publication data using document, author-, or source- (e.g., journal-) level data elements to uncover characteristics, patterns, and relationships to demonstrate individual investigator or research team productivity, quality, or impact. Most academic clinicians seek to publish their research findings as often as possible in journals widely perceived to be of high quality. However, most academic clinicians also publish in journals less likely to reject their manuscripts. Thus, a simple tally of the number of publications authored or coauthored by an academic clinician is arguably a poor method to assess research productivity.

However, there are numerous challenges in phases of academic research productivity. As such, an important reason for research concentration among a few academics is closely related to the

high rejection rate of manuscripts, especially those by first attempt authors. Migosi et al 2012 confirmed that the acceptance rate of any good scholarly journal is typically quite rate.

In a recent research in one of the universities, academics perception on research and publishing indicate that the main limitations to research output are inadequate qualifications, lack of adequate materials, shortage or interrupted power supply and a lack of skills with regard to conducting research (not all academic staff or respondents possessed a doctoral degree), insufficient time for conducting research, lack of funds, mentorship issue and departmental support, and finding research topics may be tedious and stressful according to Nieuwoudt and Wilcocks, 2005. In another development, other studies have explored the implications of the effective integration of research, teaching and learning for academic development through the lens of an international multi-institutional comparison of student perceptions of research and its impact on their learning environment. Schneider, 1998 carried out research and discovered that as of 1989, 43% of women in US colleges and 20% in universities had never published a single journal article. Another discovery was that of only 23% of men in colleges and 7% in universities. Gender gaps in productivity persist even when controlling for educational origin, academic rank, institutional type, and professional age. In addition, men continue to out publish women even in areas where women have been receiving the majority of Ph.Ds. (Creamer, 1998; Schneider, 1998).

Meanwhile it is important to note that the goal of any university across the world is at increasing research bases for development which in turn improves life and economy development of the nation.

Methodology

This study is based on the articles published by the academic staff from the five departments of the College of Animal Science and live Stock Production in Federal University of Agriculture, Abeokuta within the period of fourteen (14) years from 2005-2019. The data was collected from Google Scholar using Hazing's Publish or Perish software. The study consisted of a total number of 63 academic staff of the college as shown in table 1 below. Data collected were analyzed and presented using tables and graphs for interpretation.

Table 1: LIST OF DEPARTMENT IN COLLEGE OF ANIMAL SCIENCE AND LIVE STOCK PRODUCTION

S/No	DEPARTMENT	NUMBER OF ACADEMIC STAFF
1.	Department of Animal Breeding and Genetics	12
2.	Department of Animal Nutrition	14
3.	Department of Animal Physiology	10
4.	Department of Animal Production and Health	18
5.	Department of Pasture and Range Management	9
TOTAL		63

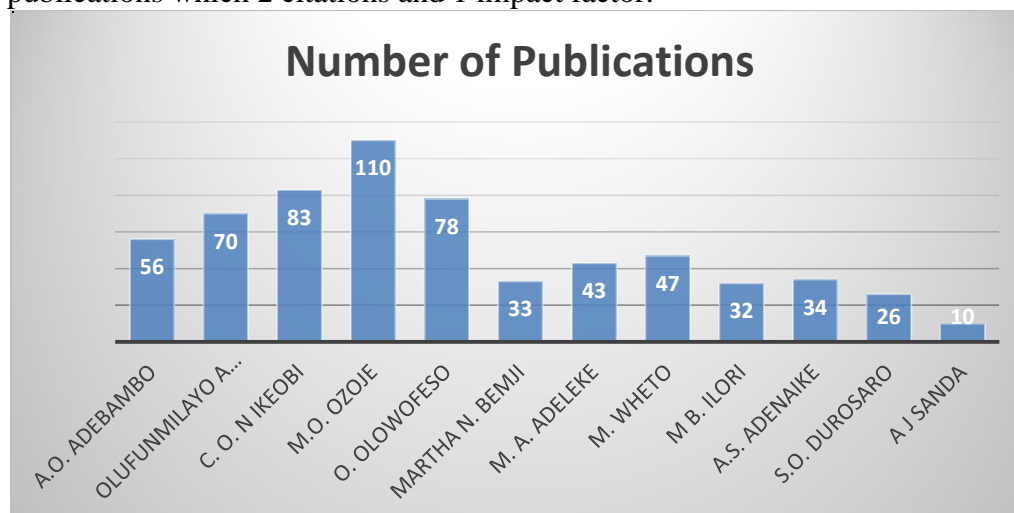
PRESENTATION OF RESULTS

Table 2 shows the list of names of academic staff members, designation and bibliometric analysis in the Department of Animal Breeding and Genetics.

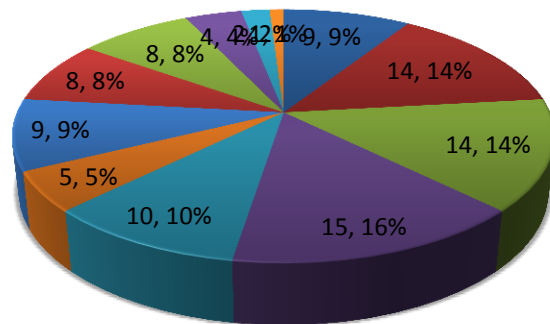
Table 2: DEPARTMENT OF ANIMAL BREEDING AND GENETICS

S/N	Name	Designation	Number of Publications	Citations	Impact Factor	Publication Years
1	A.O. Adebambo	Senior Lecturer/Ag. Head Dept	56	246	9	14
2	Olufunmilayo A Adebambo	Professor	70	582	14	14
3	C. O. N Ikeobi	Professor	83	570	14	14
4	M.O. Ozoje	Professor	110	664	15	14
5	O. Olowofeso	Reader	78	358	10	14
6	Martha n. Bemji	Reader	33	71	5	14
7	M. A. Adeleke	Senior Lecturer	43	231	9	14
8	M. Wheto	Lecturer	47	221	8	13
9	M B. Ilori	Lecturer	32	262	8	13
10	A.S. Adenaike	Lecturer	34	44	4	8
11	S.O. Durosaro	Assistant Lecturer	26	21	2	7
12	A.J. Sanda	Assistant Lecturer	10	2	1	7

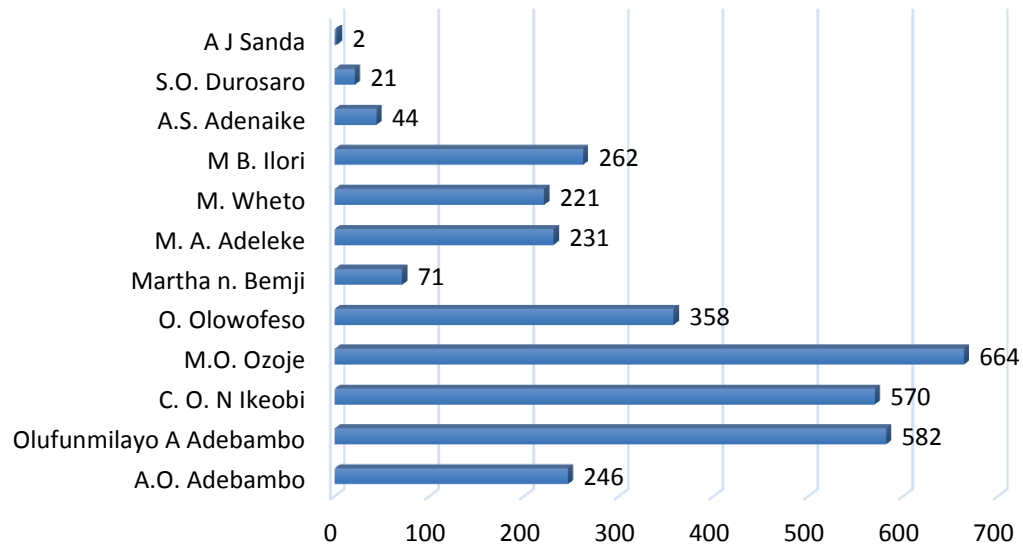
From table 2 above, M.O. Ozoje has 110 publications within 14 years with 664 citations and 15 impact factors; this is followed by C. O.N. Ikeobi having 83 publications within 14 years with 570 citations and 14 impact factors. The next is O. Olowofeso having 78 publications within 14 years with 358 citations and 10 impact factor, A. Olufumilayo Adebambo has 70 publications in 14 years with 582 citations and 14 impact factor A.O. Adebambo has 56 publications in 14 years with 246 citations and 9 impact factor, M. Wheto has 47 publications in 13 years with 221 and 8 impact factor, M.A. Adeleke has 43 publications in 14 years with 231 citations with 8 impact factor, A.S. Adenaike has 34 publications in 8 years with 44 citations and with 4 impact factor, Martha N. Bemji has 33 publications in 14 years with 71 citations and 5 impact factor, M.B. Ilori has 32 publications in 13 years with 262 and 8 impact factor, S. O. Durosaro has 26 publications in 7 years with 21 citations and 2 impact factor and A. J. Sanda has 10 in 7 years with publications which 2 citations and 1 impact factor.



Impact Factor



Citations



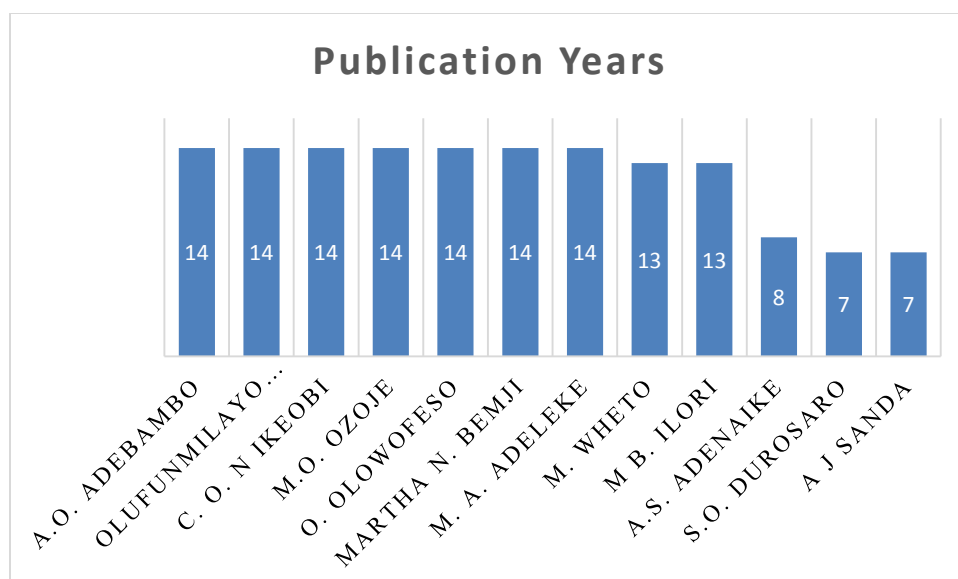
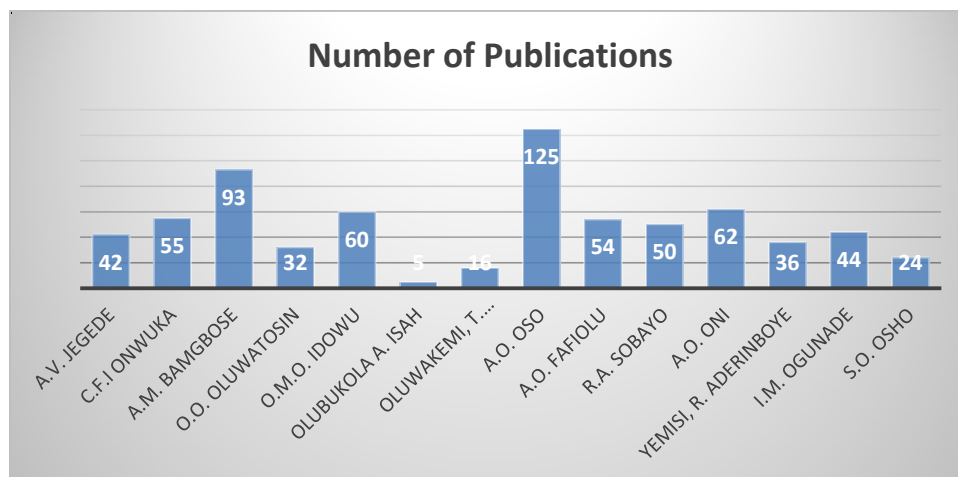
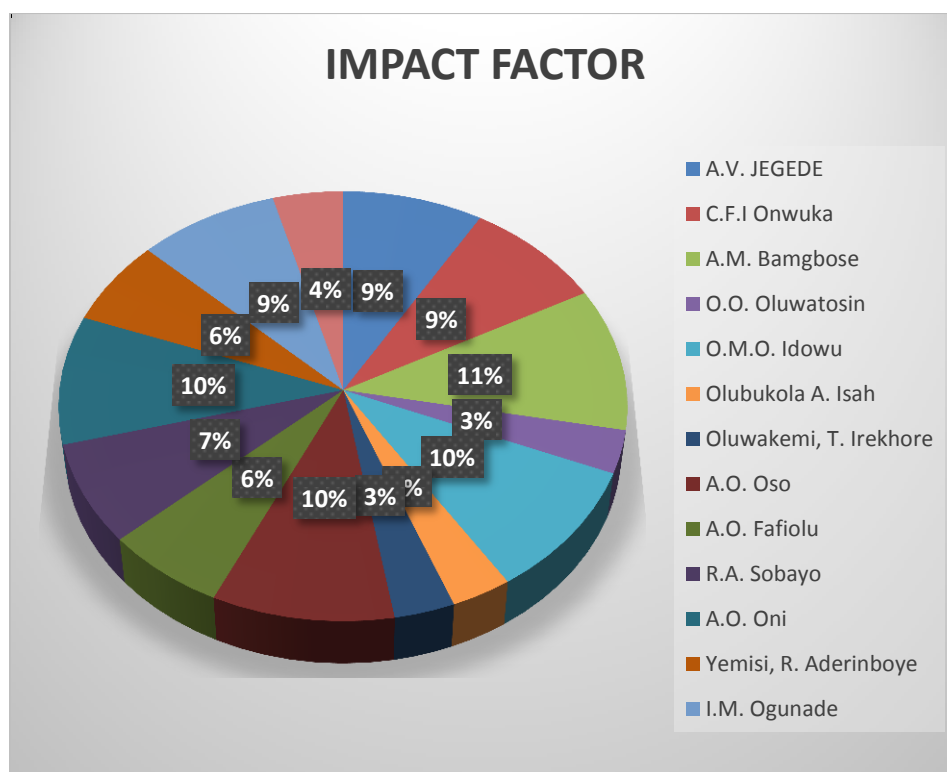
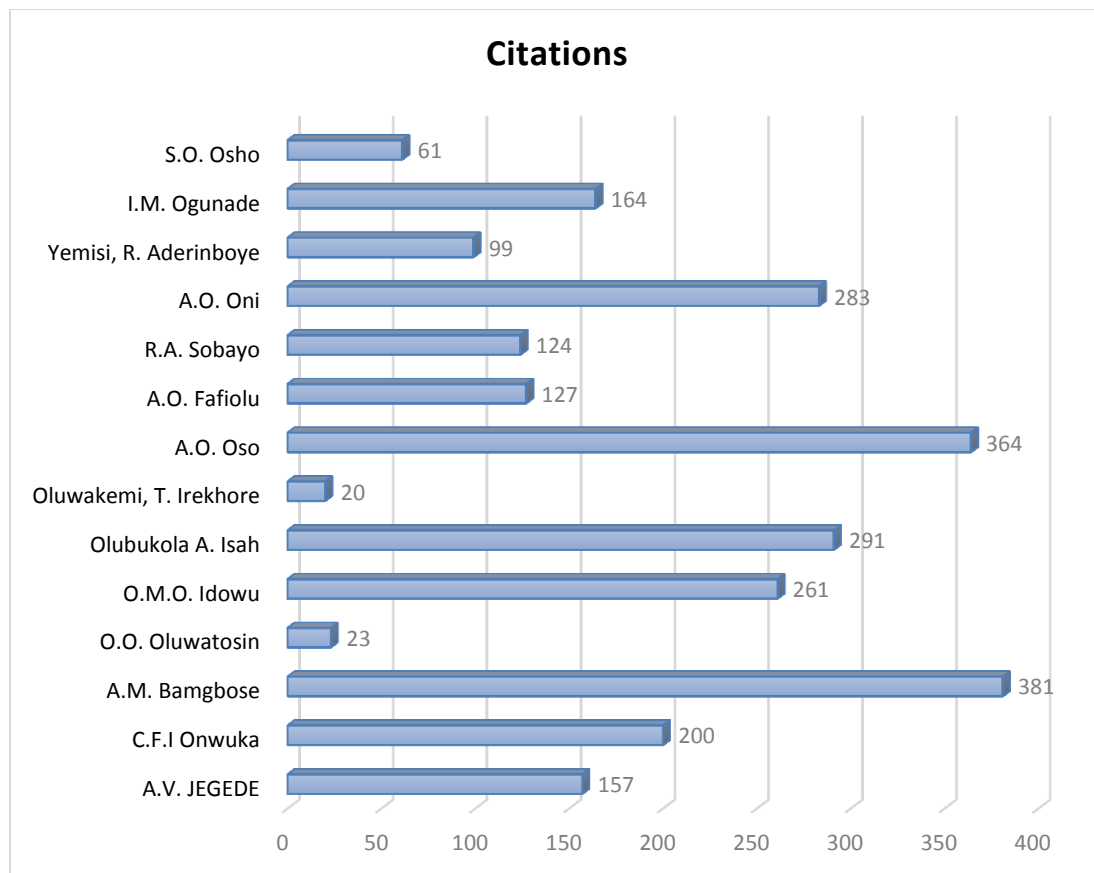


Table 3: DEPARTMENT OF ANIMAL NUTRITION

S/N o	Name	Designation	Number of Publications	Citation s	Impact Factor	Publication Years
1	A.V. Jegede	Senior Lecturer & Ag. Head of Dept	42	157	8	13
2	C.F.I Onwuka	Professor	55	200	8	13
3	A.M. Bamgbose	Professor	93	381	10	13
4	O.O. Oluwatosin	Professor	32	23	3	14
5	O.M.O. Idowu	professor	60	261	9	13
6	Olubukola A. Isah	Reader	5	291	3	3
7	Oluwakemi, T. Irekhome	Extension Fellow I	16	20	3	12
8	A.O. Oso	Senior Lecturer	125	364	9	14
9	A.O. Fafiolu	Senior Lecturer	54	127	6	13
10	R.A. Sobayo	Senior Lecturer	50	124	7	14
11	A.O. Oni	Senior Lecturer	62	283	9	12
12	Yemisi, R. Aderinboye	Senior Lecturer	36	99	6	9
13	I.M. Ogunade	Lecturer II	44	164	8	12
14	S.O. Osho	Assistant Lecturer	24	61	4	11

Table 3 indicated that A.O. Oso has 125 publications within 14 years with 364 citations and 9 impact factors, this is followed by A.M. Bamgbose has 93 publications within 13 years with 381 citations and 10 impact factor. The next is A.O. Oni having 62 publications within 12 years with 283 citations and 9 impact factor, O.M.O. Idowu has 60 publications in 13 years with 261 citations and 9 impact factor, C.F.I Onwuka has 55 publications in 13 years with 200 citations and 8 impact factor, A.O. Fafiolu has 54 publications within 13 years with 127 citations and 6 impact factor, R.A. Sobayo has 50 publications in 14 years with 124 citations and 7 impact factor, I.M. Ogunade has 44 publications in 12 years with 164 citations with 8 impact factor, A.V. Jegede has 42 publications in 13 years with 157 citations and with 8 impact factor, Yemisi, R. Aderinboye has 36 publications in 9 years with 99 citations and 9 impact factor, O.O. Oluwatosin 32 publications in 14 years with 23 citation and 3 impact factor, S.O. Osho has 24 publications in 11 years with 61 citations and 4 impact factor Oluwakemi, T. Irekhore 16 publications in 12 years 20 citations and 3 impact factor and Olubukola, A. Isah has 5 publications in 3 years with 291 citations and 3 impact factors





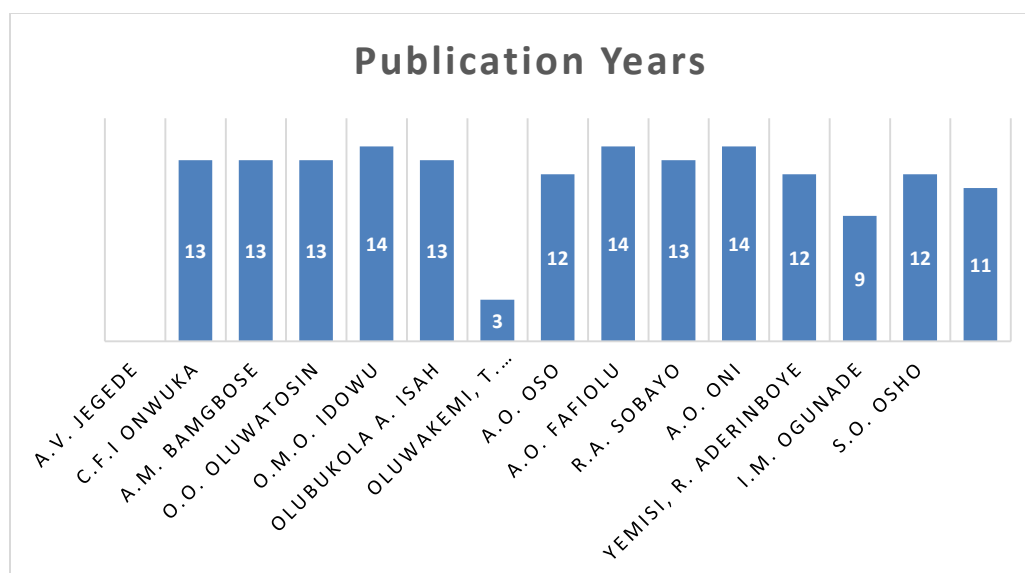
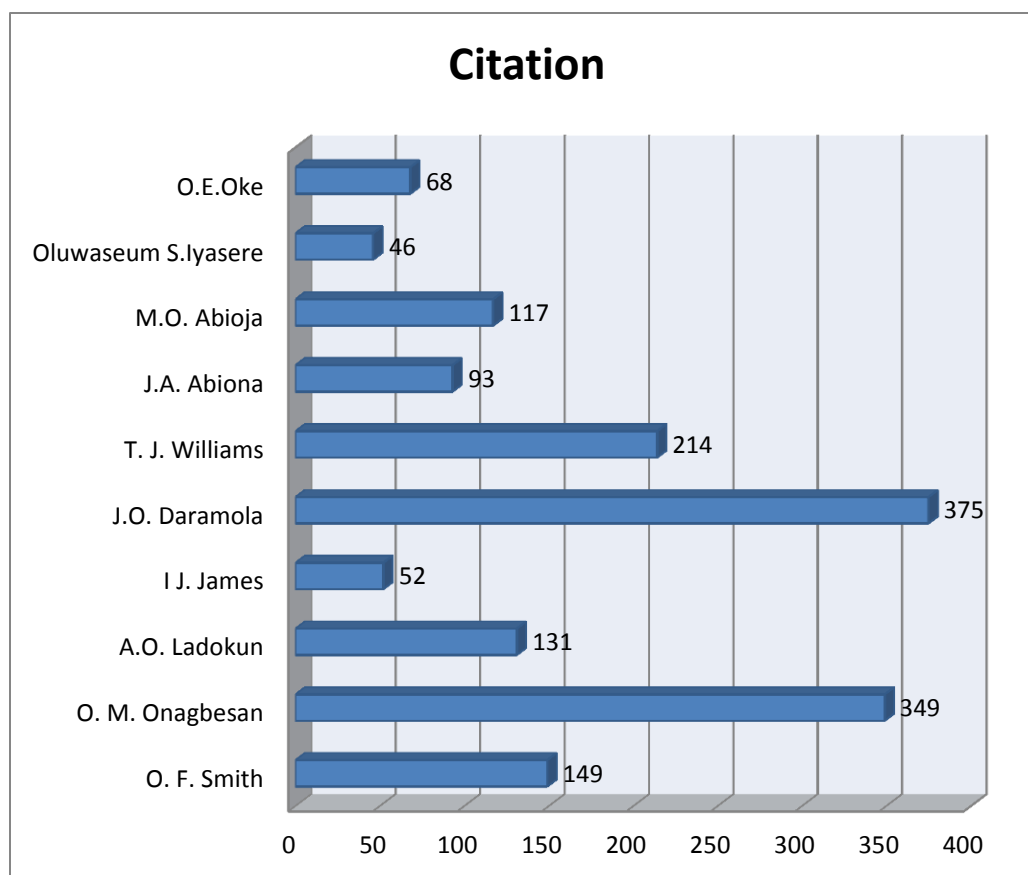
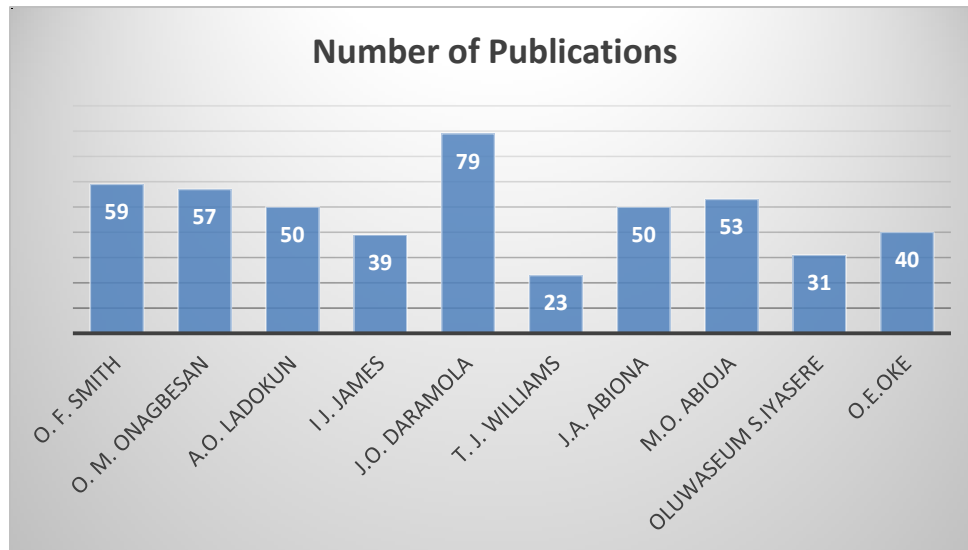


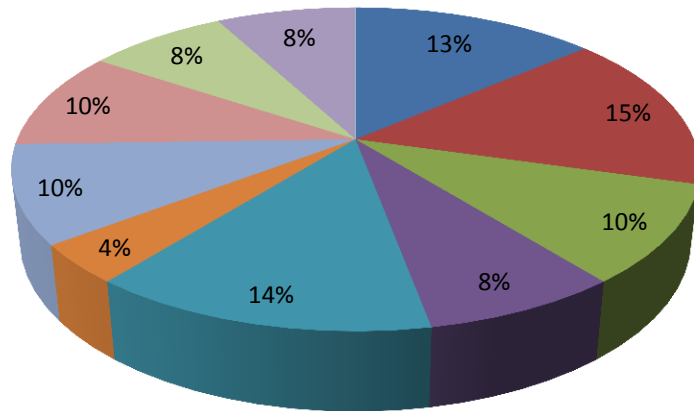
Table 4: DEPARTMENT OF ANIMAL PHYSIOLOGY

S/No	Name	Designation	Number of Publications	Citation	Impact Factor	Publication Year
1	O. F. Smith	Professor and Head of Dept.	59	149	7	14
2	O. M. Onagbesan	Professor	57	349	8	14
3	A.O. Ladokun	Reader	50	131	5	14
4	I J. James	Reader	39	52	4	14
5	J.O. Daramola	Reader	79	375	7	14
6	T. J. Williams	Lecturer I	23	214	2	11
7	J.A. Abiona	Lecturer I	50	93	5	14
8	M.O. Abioja	Lecturer I	53	117	5	14
9	OluwaseumS.Iyasere	Lecturer II	31	46	4	9
10	O.E.Oke	Lecturer II	40	68	4	12

From table 4 above, it is indicated that J.O. Daramola has 79 publications in 14 years with 375 citations and 7 impact factor, O. F. Smith has 59 publications in 14 years with 149 citations and 7 impact factor, O. M. Onagbesan has 57 publications in 14 years with 349 citations and 8 impact factor, M.O. Abioja has 53 publications in 14 years with 117 citations and 5 impact factor, A.O. Ladokun has 50 publications in 14 years with 131 citations and 5 impact factor, O.E. Oke has 40 publications in 12 years with 68 citation and 4 impact factors, I J. James has 39 publications in 14 years with 52 citations and 4 impact factor, Oluwaseum, S. Iyasere has 31 publications in 9 years with 46 citations with 4 impact factor, and T. J. Williams has 23 publications in 11 years with 214 citation and 2 impact factors.



Impact Factor



■ O. F. Smith	■ O. M. Onagbesan	■ A.O. Ladokun
■ I.J. James	■ J.O. Daramola	■ T. J. Williams
■ J.A. Abiona	■ M.O. Abioja	■ Oluwaseum S.Iyasere
■ O.E.Oke		

Publication Years

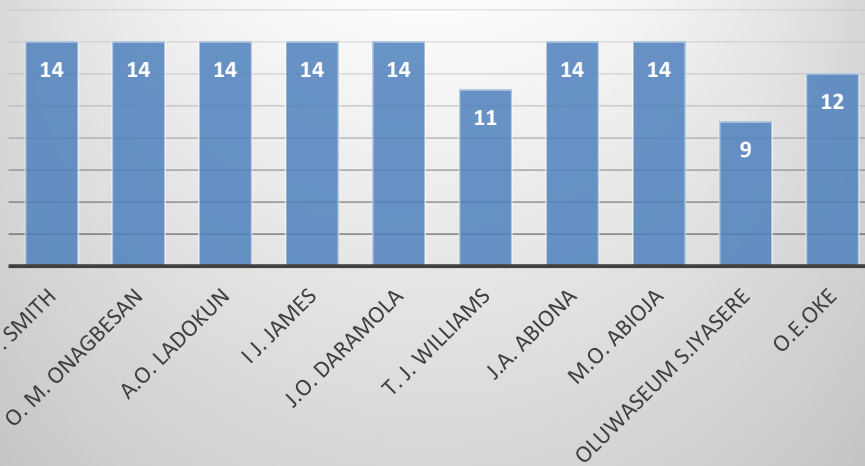


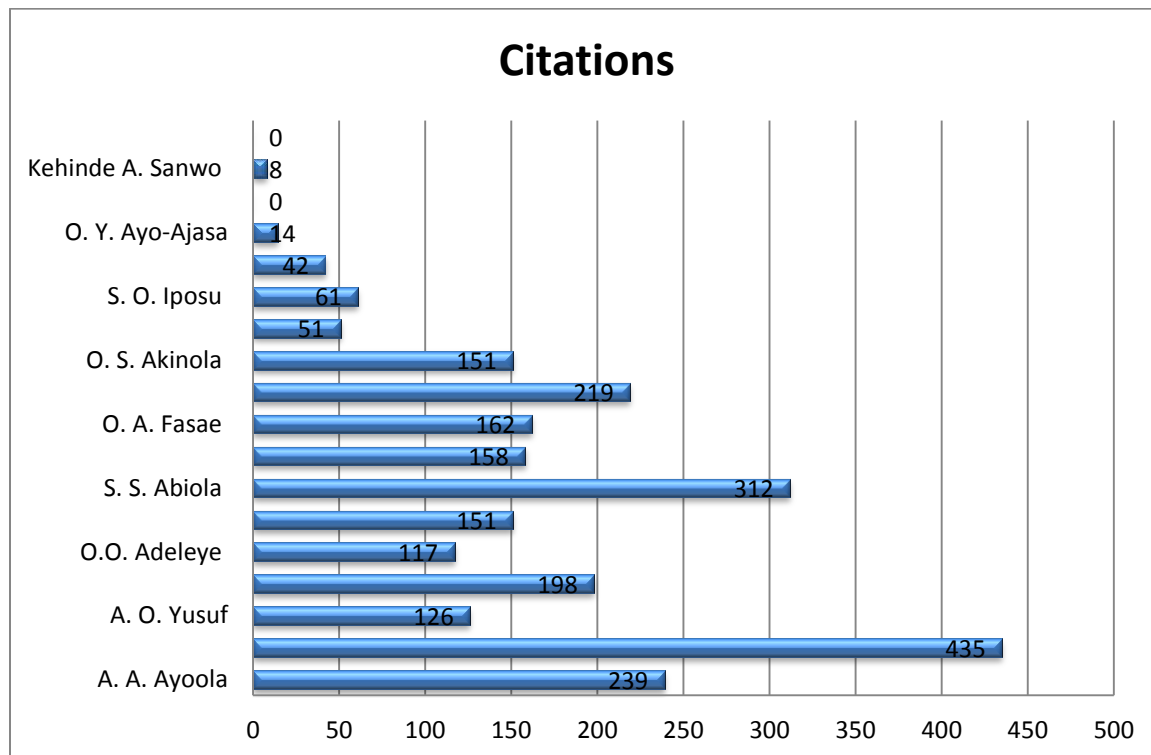
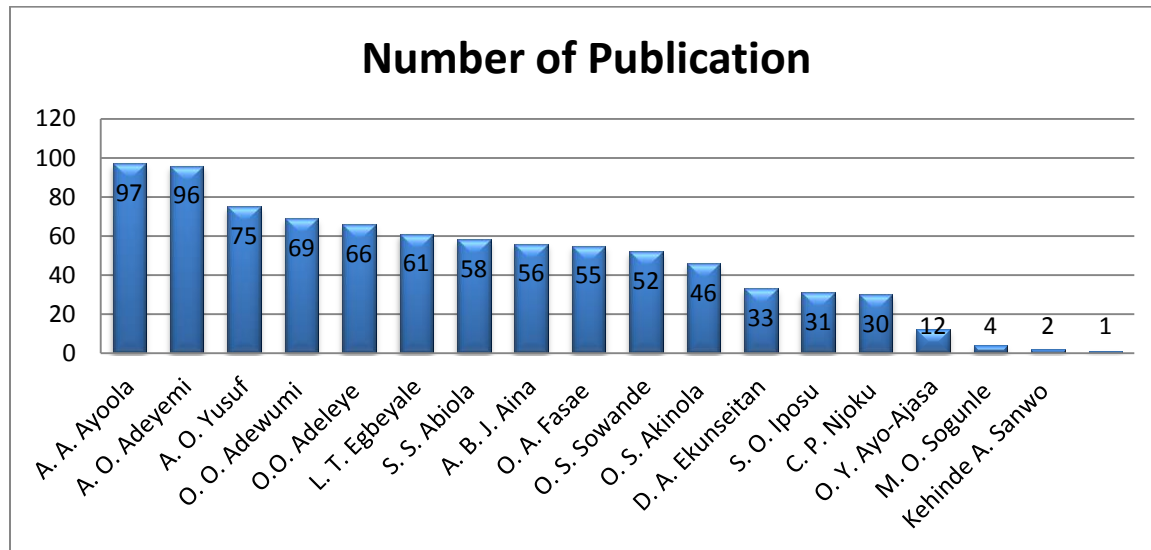
Table 5: DEPARTMENT OF ANIMAL PRODUCTION AND HEALTH

S/No	Names	Designation	Number of publication	Citations	Impact Factor	Publication Years
1	A. A. Ayoola	Assistant Lecturer	97	239	8	12
2	A. O. Adeyemi	Reader	96	435	11	14
3	A. O. Yusuf	Lecturer II	75	126	6	13
4	O. O. Adewumi	Senior Lecturer	69	198	7	14
5	O.O. Adeleye	Lecturer II	66	117	5	12
6	L. T. Egbeyale	Lecturer I	61	151	8	12
7	S. S. Abiola	Professor	58	312	8	14
8	A. B. J. Aina	Professor	56	158	8	13
9	O. A. Fasae	Senior Lecturer	55	162	7	14
10	O. S. Sowande	Professor	52	219	6	12
11	O. S. Akinola	Lecturer I	46	151	7	13
12	D. A. Ekunseitan	Assistant Lecturer	33	51	4	12
13	S. O. Iposu	Reader	31	61	4	14
14	C. P. Njoku	Lecturer II	30	42	4	7
15	O. Y. Ayo-Ajasa	Lecturer II	12	14	2	5
16	M. O. Sogunle	Senior Lecturer & Ag. Head	4	0	0	9
17	Kehinde A. Sanwo	Senior Lecturer	2	8	1	5
18	Bamidele O. Oluwatosin	Professor	1	0	0	2

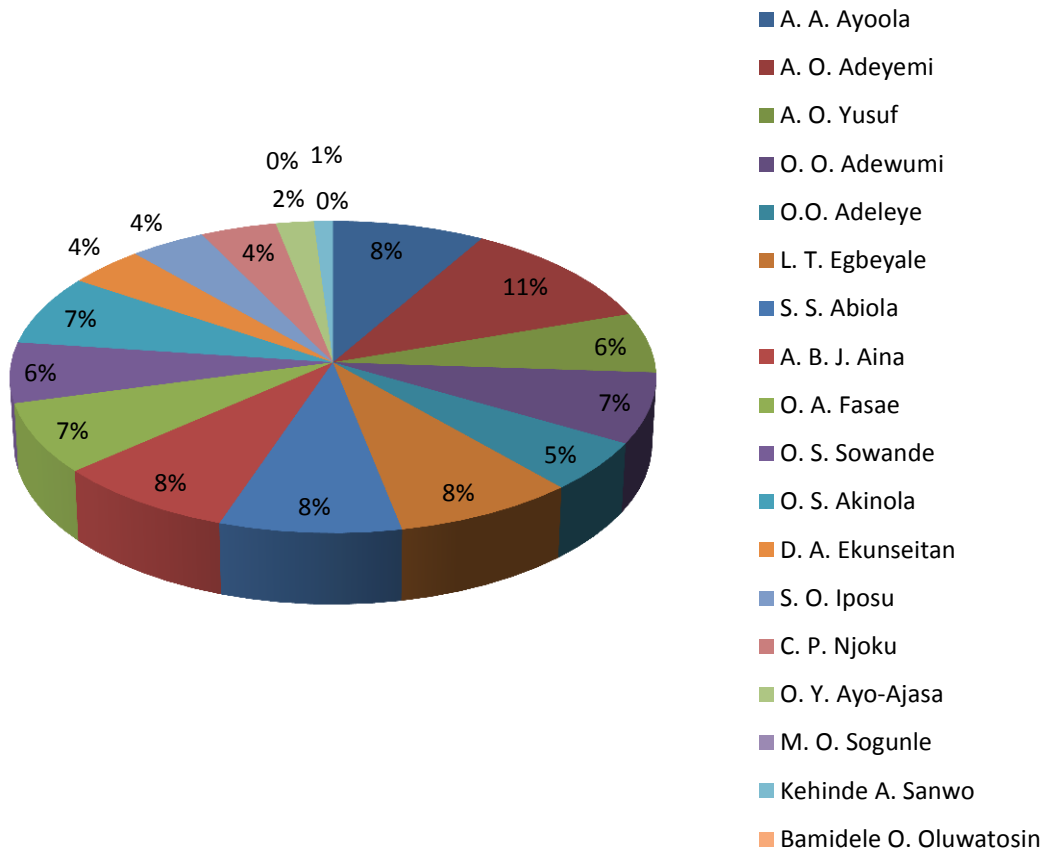
From the tables above, Ayoola A. O. has 97 publications published within 12 years with 239 citations and 8 impact factor. Adeyemi A. O. has 96 publication published within 14 years with 435 citations and 11 impact factor then Yusuf A. O. 75 publications published within 13 years with 126 citations and 6 impact factors. Adewumi O.O. has 69 publication published within 14 years with 198 citations and 7 impact factor and Adeleye O.O. has 66 publications published within 14 years with 117 citations and 5 impact factor. Abiola S.S. has 58 publications published within 12 years with 312 citations and 8 impact factors; Aina A. B. J. has 56 publications published within 13 years with 158 citations and 8 impact factors while Fasae O. A. has 55 publications published within 14 years with 162 citations and 7 impact factors respectively. O. S. Sowande has 52 publications published within 12 years with 219 citations and 6 impact factors. O. S. Akinola has 46 publications published within 13 years with 151 citations and 7 impact factors. D. A. Ekunseitan has 33 publications published within 12 years with 51 citations and 4 impact factors. However, Bamidele O. Oluwatosin has 1 publications published in 2 years with 0 citations and 0 impact factor, Kehinde A. Sanwo has 2 publications published within 5 years

with 8 citations and 1 impact factor, Ayo-Ajase O. Y has 12 publications published within 5 years with 14 citations and 2 impact factor, Njoku C. P has 30 publications published within 7 years with 42 citations and 4 impact factor, Iposu S. O. has 31 publications published within 14 years with 61 citations and 8 impact factor.

Therefore, Ayoola A. O. has the highest number of publications while Bamidele O. Oluwatosin has the least number of publications in the Department of Animal Production and Health. More analyses are on chart below.



Impact Factor



Publication Years

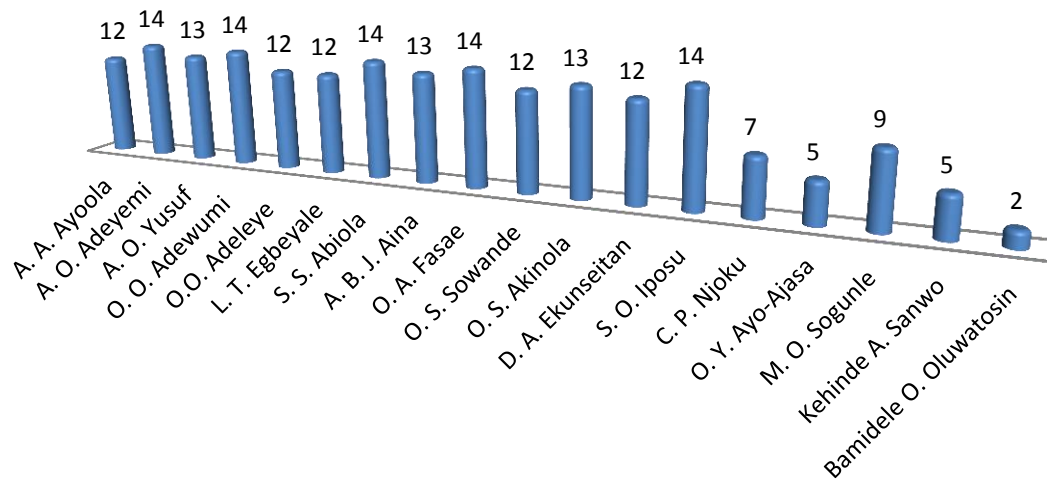
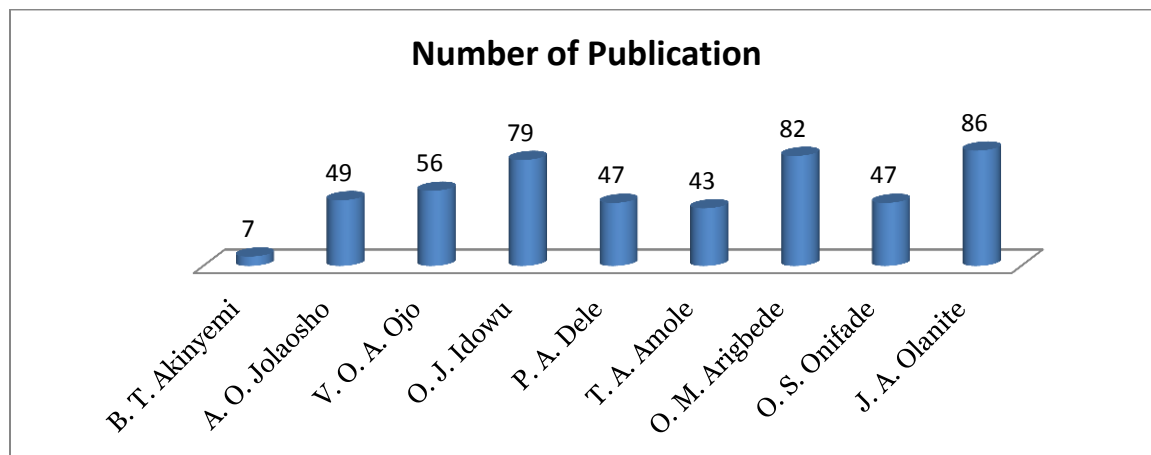


Table 6: DEPARTMENT OF PASTURE AND RANGE MANAGEMENT

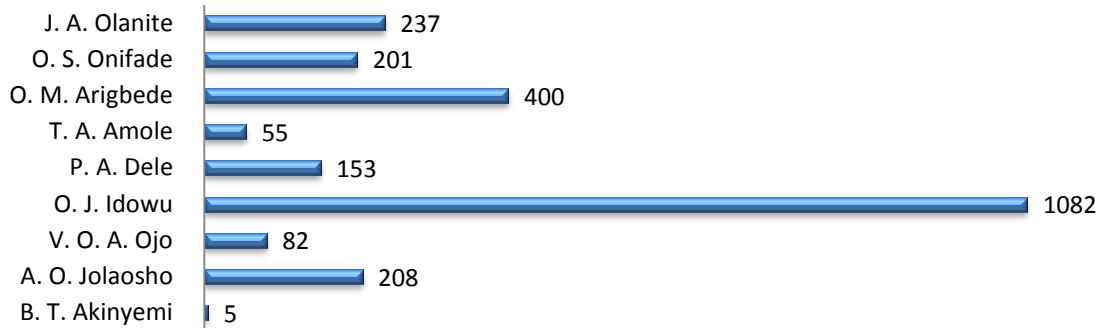
S/No	Name	Designation	Number of Publication	Citations	Impact Factor	Publication Years
1.	B. T. Akinyemi	Assistant Lecturer	7	5	1	6
2.	A. O. Jolaosho	Professor	49	208	8	14
3.	V. O. A. Ojo	Senior Lecturer	56	82	6	13
4.	O. J. Idowu	Lecturer II	79	1082	12	14
5.	P. A. Dele	Lecturer II	47	153	6	13
6.	T. A. Amole	Research Fellow I	43	55	4	12
7.	O. M. Arigbede	Professor	82	400	12	14
8.	O. S. Onifade	Professor	47	201	9	14
9.	J. A. Olanite	Professor & Head of Dept.	86	237	9	14

From the tables above, B. T. Akinyemi has 7 publications published in 6 years with 5 citations and 1 impact factor, Jolasho A. O. has 49 publications published within 14 years with 208 citations and 8 impact factors. V. O. A. Ojo has 56 publications published within 13 years with 82 citations and 6 impact factors, O. J. Idowu has 79 publications published within 14 years with 1082 citations and 12 impact factor. More so, P. A. Dele has 47 publications published within 13 years with 153 citations and 6 impact factors, T. A. Amola has 43 publications published within 12 years with 55 citations and 4 impact factor and O. M. Arigbede has 82 publications published within 14 years with 400 citations and 12 impact factor. However, O. S. Onifade has 47 publications published within 14 years with 201 citations and 9 impact factors and J. A. Olanite has 86 publications published within 14 years with 237 citations and 9 impact factors.

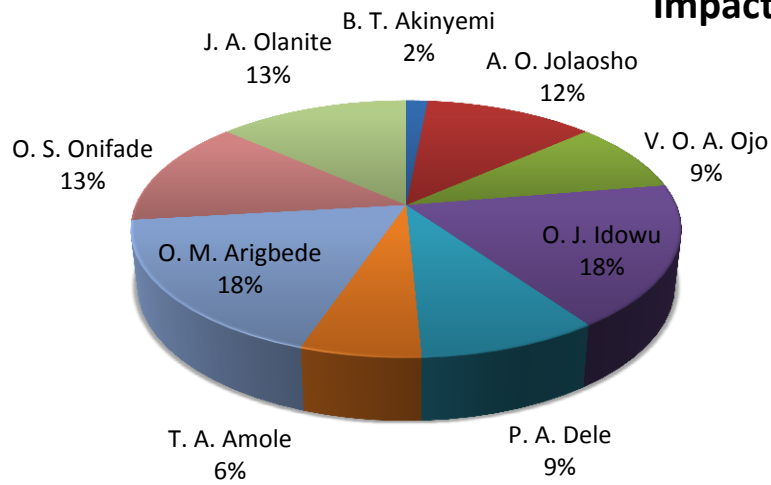
Therefore, J. A. Olanite has the highest number of publications while Akinyemi B.T has the least number of publications in the Department of Pasture and range Management. More analyses are on chart below.



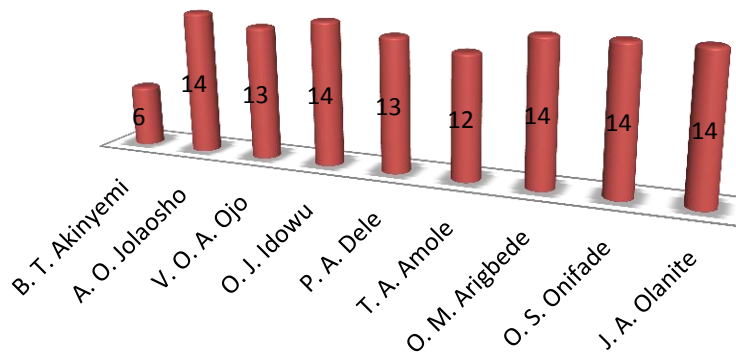
Citations



Impact Factor



Publication Years



Conclusion

Bibliometric analysis measures the value of an individual researcher and institutions of higher learning most especially the university in the academic environment. The advent of information communication technology has contributed immensely in the promotion of research output of researchers worldwide. However, in academic institutions and the research librarians must make sure that reports are generated using bibliometrics tools in order to ascertain the contribution of the academic staff in scholarly communication as well as the overall rating of the institution and the country at large. Therefore, the academic staff research outcome or productivity in the college must be supported through the provision of adequate facilities and materials, to facilitate the dissemination of scholarly communication.

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