

CURRENT RESEARCH PRIORITIES AND DISTRIBUTION OF ANIMAL AGRICULTURE RESEARCH (AAR) SCIENTISTS IN NIGERIA

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ABSTRACT

In March 2018, the Nigerian Society for Animal Production (NSAP) held its 43rd Annual Conference at Owerri, southeast Nigeria, with the theme “Exploring Science and Technology Innovations for Sustainable Livestock Development” and produced a book of proceedings as its major conference output. This paper analyzed the 440 papers contributed to the book of proceedings, in order to highlight the current research priorities and sources of animal agriculture research (AAR) in Nigeria. Overall, 387(87.95%) oral and 53(12.05%) poster papers were contributed. AAR in Nigeria focused more on monogastric animal nutrition (MON) (18.68%, n=82) and animal physiology, reproduction and welfare (APRW) (17.27%, n=76) than other disciplines such as agricultural economics and extension (2.27%, n=10) and aquaculture (2.50%, n=11). The most popular animal model used in these studies was the domestic chicken, which accounted for 36.00%, (n=158) of overall papers and 34.81% (n=55) and 25.95% (n=41) of papers contributed under MON and APRW respectively. Papers were contributed from all the six geographical zones of the country, with the southeast (34.00%, n=149) and southwest (27.00%, n=116), recording the highest contributions and northeast the lowest (3.6%, n=17). The participants came from 83 institutions; however, more institutions were based in northcentral (24.12%, n=20) and southwest (21.62%, n=18) Nigeria. Most of the principal authors were affiliated to universities (59.00%, n=49), while only 4.00% (n=3) were affiliated to research institutions. AAR activities need to be resuscitated in these research institutes, while agricultural social scientist, aqua-culturist and pasture management experts should be encouraged to participate more in future conferences.

Keywords: Animal production, chicken, livestock, Nigeria

INTRODUCTION

The livestock industry in Nigeria represents a very important national resource that contributes substantially to the national wealth and also supplies the populace with the important animal proteins which are required for healthy living (Achonwa, 2017). For the past 43 years, the Nigerian Society for Animal Production (NSAP) has organized an annual conference, with the overall objective of linking the science of animal agriculture with the broader stakeholders in a knowledge sharing environment in order to engender innovative products development and practices. During these events, experts working across the different disciplines in animal agriculture research (AAR) gather to learn, share, innovate and foster new collaborations. Papers that highlight the current research focus and priorities of the national AAR community are routinely presented and produced as an annual conference book of proceedings.

In March 2018, the Society held its 43rd Annual Conference at the Federal University of Technology Owerri (FUTO) in southeast Nigeria, with the theme “Exploring Science and Technology Innovations for Sustainable Livestock Development”. A conference book of proceedings containing 440 paper contributions was produced as the major output from the event. In this paper, we present our analysis of this book of proceedings, with the main objective of determining the current research priorities and affiliations of animal agriculture research scientists in Nigeria.

MATERIALS AND METHODS

The 2018 Annual Conference of the Nigerian Society for Animal Production (NSAP) was held from 18 – 22 March 2018 at the Federal University of Technology Owerri (FUTO), Imo State, Nigeria. The FUTO campus is located at Ihiagwa in Owerri West Local Government Area (LGA) of Imo state, South East Nigeria. The state lies between latitudes 05° 30" and 05° 56" north of the equator and between longitudes 05° 37" and 07° 26" east of the Greenwich meridian and occupies a land area of 13, 032 square kilometers. The climate falls under type AW in the Kopper-Geiger classification of wet and dry climate and zone B of the Nigerian eco-climatologically zones (Ofomata, 1975). Given the close relationship between climate and vegetation, the location of the conference coincides with the rain-forest belt. It receives an annual rainfall range of 2000 to 2484 mm, with an average daily temperature of 26°C.

The event generated a conference book of proceedings containing 440 presentations made-up of 387 oral and 53 poster papers. With the aid of frequency counts and percentages, we analyzed the information on the paper contributed by authors to the book of proceedings, in order to determine their disciplinary, inter-disciplinary, regional and researcher affiliation diversity. In all cases, researcher affiliation was based on the given address of the principal author. Data generated were presented in graph formats.

RESULTS AND DISCUSSION

Figure I shows that out of the 440 papers presented at the conference, 18.64% (n = 82) and 17.27% (n = 76) were on monogastric animal nutrition (MON) and animal physiology, reproduction and welfare (APRW) respectively, constituting the major subject areas of focus by the researchers. Papers dealing with Animal production, economics and extension (APE), aquaculture and fishery management (AFM) and pasture and range management (PRM) were particularly few.

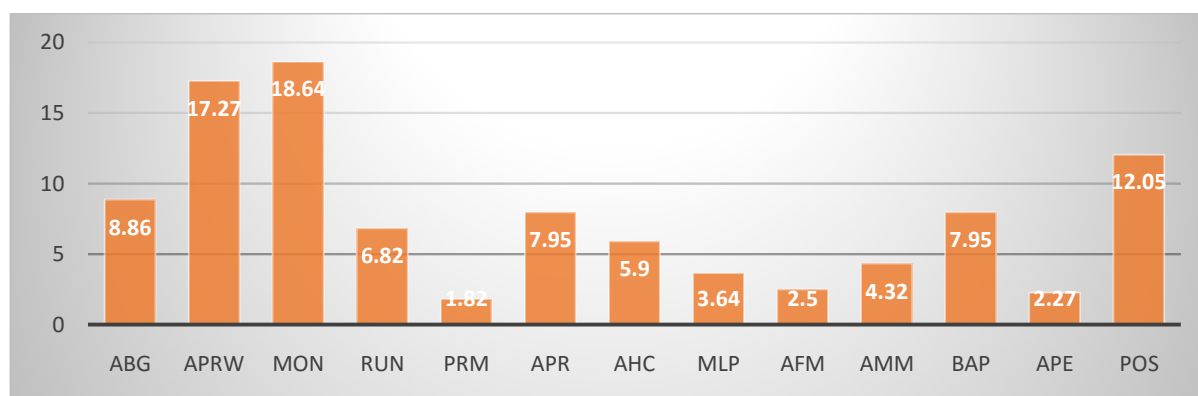


Fig. I: Percentage distribution of papers contributed across different subject areas during the conference (n = 440). Legend: ABG = Animal breeding and genetics; APRW = Animal physiology, reproduction and welfare; MON = Monogastric nutrition; RUN = Ruminant nutrition; PRM = Pasture and range management; APR = Animal products and processing; AHC = Animal health and disease control; MLP = Microlivestock production; AFM = Aquaculture and Fishery Management; AMM = Animal Management and Modelling; BAP = Biochemistry and Biotechnology Applications; APE = Animal production economics and extension; POS = Poster presentations

Figure II shows the percentage distribution of paper contributions across different animal species highlighted the fact that the domestic chicken was the major species (35.91%, n = 158) used as animal model by the researchers. Of these papers dealing with domestic chicken research, 34.81% (n = 55) and 25.95% (n = 41) were presented under MON and APRW subject areas respectively (Figure III). The results in figure IV also show that across the two popular research areas, MON and APRW, chicken research again constituted 67.07% (n = 55) and 55.26% (n = 42) of the papers presented. The use of chicken as animal model for researching alternative feedstuffs is popular in Nigeria and is driven by the urgent need to sustain the recent growth in the industry through identification of cheaper and locally available feed ingredients (Esonu, 2009; Ifeduba, 2018).

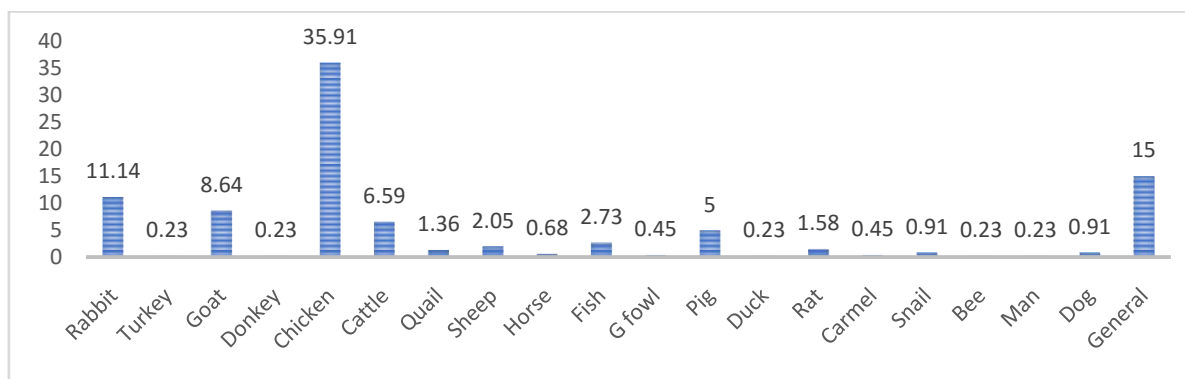


Fig. II: Percentage distribution of paper contributed across different animal species (n = 440)

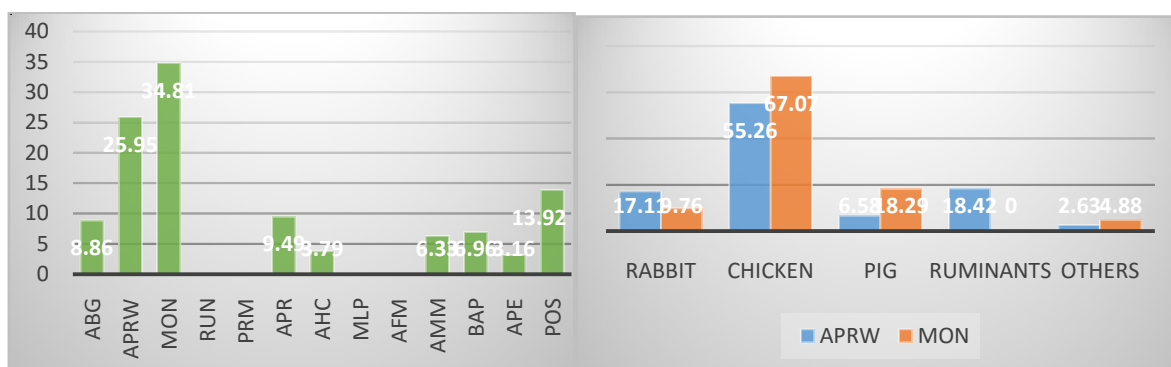


Fig. III: Percentage distribution of papers dealing with chicken research across different subject areas (n = 440). Legend: As in Figure I

Fig IV: Percentage distribution of animal species used in animal physiology and monogastric nutrition research (n = 76 for APRW and 82 for MON). Legend: As in Figure I

Figure V shows the percentage distribution of papers across the six geographical zones of Nigeria, namely South west (SW), South east (SE), South-south (SS), North central (NC), North west (NW) and North east (NE) zones. It is interesting to note that all the six zones were represented, however, about 34.00% (n = 149) of the papers were understandably contributed by researchers affiliated to institutions based in the SE zone, which was the location of the conference venue.

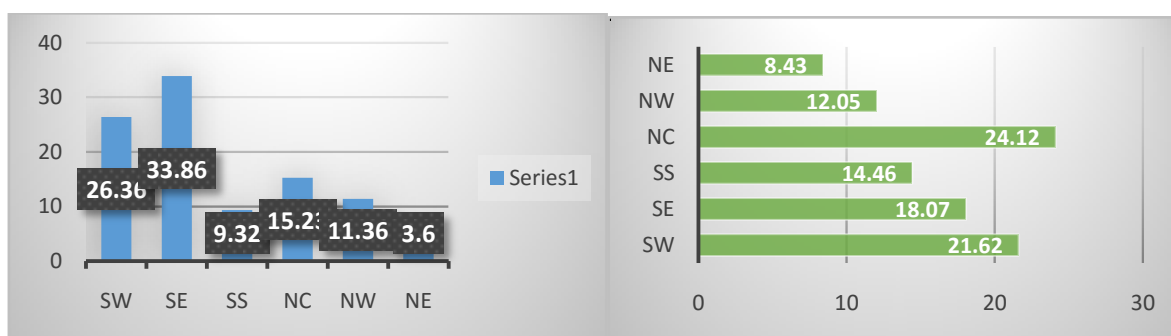


Fig. V: Percentage distribution of papers across the different geographical zones during the conference (n = 440). Legend: SW = South west; SE = South east; SS = South-south; NC = North central; NW = North west; NE = North east.

Fig. VI: Percentage distribution of institutional affiliations of first authors of papers (n = 83)

Figure VI showed that the papers were actually contributed by researchers working in 83 institutions spread across the different zones of the country, with NC (24.12, n = 20) and SW (21.69, n = 18) hosting the highest number of institutions. It is therefore interesting to note that even though 15.00% of the conference papers were contributed by researchers based in NC Nigeria, its institutional

representation was higher than those of other zone. Figure VII showed the percentage distribution of papers according to types of authorship. Generally, most of the papers were written by more than one author, with the trend being multiple authorship.

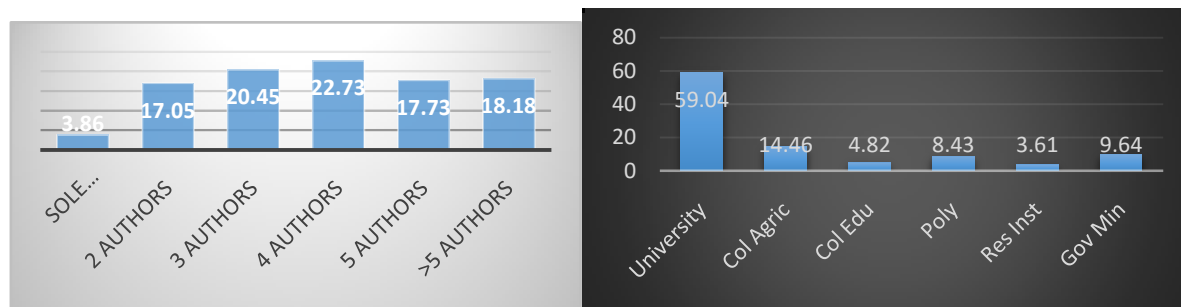


Fig. VII: Percentage distribution of papers according to type of authorship (n = 440)

Fig: VIII: Percentage distribution of papers according to type of institutions affiliated to the first authors (n = 440). Legend: Col Agric = College of Agriculture; Col Edu = College of education; Poly = Polytechnic; Res Inst = Research Institute; Gov Min = Government Ministry

Figure VIII presented the percentage distribution of papers according to institutional affiliation of the principal authors of the papers. The results show that 59.00% (n = 49) of the institutions affiliated to the principal authors were university, while 14.00% (n = 12) were affiliated to colleges of agriculture. The lowly 4.00% (n=3) recorded for research institutes was strange and may reflect serious challenges to research in these institutions, probably due to poor funding by government.

CONCLUSION

This study has shown that animal agriculture research in Nigeria is currently focused majorly on monogastric animal nutrition and animal physiology, reproduction and welfare and that the most popular animal model for these studies is the domestic chicken. These papers were contributed by researchers from all the six zones of the country, but especially from the SE and SW, mostly affiliated to the university system. The very low research output from the country's research institutes might be reflecting serious challenges to research in these institutions. There is the need to attract more papers from economics and extension, aquaculture and pasture management researchers to future conferences, since they were poorly represented.

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