



ANALYSIS OF FEED BRAND TYPE USED AMONG POULTRY FARMERS IN MAKURDI, BENUE STATE, NIGERIA

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ABSTRACT

The study analyzed feeds type used among poultry farmers in Makurdi local Government area of Benue State, Nigeria. Multi-stage sampling was used to select 100 respondents for the study. Data for the study was collected from primary source with the aid of a well-structured questionnaire and analyzed using descriptive and inferential statistics. Results revealed that, majority (72.0%) of the respondents were females, with a mean age of 36.6 years and mean educational level of 14.45 years; majority of the respondents (61.0%) used hybrid feed for poultry production; Vital, Top and Amo feeds had increased returns in poultry production; choice of feed type used by respondents was based mostly (74%) on recommendation by others. The result further revealed that, number of chicks ($P \leq 0.01$) had significant influence on poultry output. It was recommended that Vital, Top and Amo feeds should be used by poultry famers for greater returns and farmers should be encouraged to expand their farm size hence number of chicks for more output.

Keywords: Brand, Farmers, Feed, Poultry, Type.

INTRODUCTION

Nigeria economy is basically regarded as an agrarian economy and therefore agriculture plays a pivotal in the nation's gross domestic product (Mohammed, 2016). The economy has been experiencing a jobless growth for two decades and agriculture remains the alternative to this unpleasant growth (Oloni *et al.*, 2017). Agriculture also constitutes a significant sector of Nigerian's economy. The sector plays a very significant role in terms of laour, poverty alleviation and contribution to human development chain (Amaza and Ofayemi, 2002).

The term "poultry" used in agriculture generally refers all domesticated birds kept for eggs or meat production. Poultry production is one of the most important agricultural businesses practiced in Nigeria. But one of the challenges posed on the production of poultry is that, feeds are mostly derived from crops such as maize, sorghum, and other grain crops. An important part of raising poultry is feeding, Feeding makes up the major cost of production and good nutrition is reflected in the bird's performance and its products (National Center for Appropriate Technology [NCAT], 2003). Success in the poultry production or farming mostly depends on feed quality. In order to obtain desired growth rate and health, birds must be provided with highly nutritious feeds. Feeding the birds with high quality feed helps to get maximum returns from the poultry farming business. According to (Tossou, 2014) given a good quality ration in sufficient quantity allows animals to express all their genetic potential and Poultry farmers need to go for quality feeds in order to get maximum returns from their poultry business.

Given the central importance that feeds play in intensive poultry system, it is essential to identify the best type of feed options for farmers. Global consumption of poultry products, especially poultry meat and egg has consistently increased over the years as a result of increase in population, urbanization and income. This trend is expected to continue as forecast by food



and agriculture organization (FAO, 2013). Due to the high consumption of animal protein, the growth in poultry industry is having a very serious effect on the demand for feed and feed raw materials. Previous studies have shown that the high cost of compounded feeds for poultry is derived largely from the excessive prices of feed ingredients, increasing competitive demand for them and scarcity of conventional ingredients (Ojewola, 2004).

In commercial poultry production the main constraint to successful production, is the feed cost which accounts for about 75-80% of the total cost of production (Hassan, 2002). Feeding and nutrition are important aspects of poultry production enterprise, hence a good understanding of proper nutrition and feeding is essential for successful poultry production. The specific objectives of the study were to: (i) identify the feed type use among poultry farmers; (ii) determine reasons for choice of feed type; (iii) determine the output by feed type; and (iv) determine the influence of input on poultry output.

MATERIALS AND METHODS

The Study Area

The research work was carried out in Makurdi Local Government Area of Benue state. Makurdi is the capital of Benue state, Nigeria. The city is located in North central Nigeria along the Benue river and lies on latitude 07°43'50 North and Longitude 08°32'10 East. The climate of the state is characterized by an average annual minimum and maximum temperature of 22.43°C and 33.41°C, respectively, and the annual rainfall ranges from 1270-1397 mm (Olaniran and Summer, 2006). The local government has 11 council wards namely; Agan, Ankpa/Wadata, Bar, Central/south mission, Clerks/Market, Fiidi, Mbalagh, Modern Market, North Bank1, North bank2 and Wailomayo with an estimated population of 500,797 people (NPC, 2010). The ethnic groups in makurdi are the Tiv, Idoma, Iggede nd Etulo with Tiv being the major tribe. The land is very fertile and about 80% of the inhabitants are farmers. Its rich and diverse agricultural endowment include: Crops such as yam, cassava, rice, maize, millet, vegetable, groundnut, beniseed, guinea corn, soybeans etc. are produced in commercial quantity making farming a major means of livelihood. In addition, fishing, carving, hunting, knitting, craftsmanship, blacksmithing and pottery are practiced at subsidiary levels.

Sampling Technique and Data Collection Method

The population for the study consisted of all the poultry farmers in Makurdi Local government area. Multi-stage sampling technique was used to collect sample size for the study. Firstly, a purposive sampling of four council wards (Ankpa/Wadata, Clerks/Market, Modern Markets and Wailomayo) was made out of the 11 council wards due to high intensity of poultry farmers. Secondly, a simple random sampling of 25 poultry farmers were made from each council wards giving a sample size of 100 respondents. Primary data was collected for the study. Primary data were collected using well-structured questionnaire

Analytical Techniques

Descriptive statistics was employed to achieve objectives i, ii and iii while Ordinary Least Square regression was used to achieved objective iv. Data was fitted into four functional forms namely; Double log, exponential, semi-log and linear regression, and the lead equation was selected. The functional forms are expressed as follows:

$$\text{Linear: } Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_5 X_5 + e \quad \dots(1)$$

$$\text{Exponential: } \text{Log} Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_5 X_5 + e \quad \dots(2)$$

$$\text{Semi-log: } Y_i = \beta_1 \text{Ln} X_1 + \beta_2 \text{Ln} X_2 + \dots + \beta_5 \text{Ln} X_5 + e \quad \dots(3)$$

$$\text{Double log: } \text{Ln} Y_i = \beta_0 + \beta_1 \text{Ln} X_1 + \beta_2 \text{Ln} X_2 + \dots + \beta_5 \text{Ln} X_5 + e \quad \dots(4)$$

where;

Y = Poultry output (kg)



X_1 = drugs (ml)
 X_2 = number of chicks housed (Number)
 X_3 = Water (liters)
 X_4 = Labour (man days)
 X_5 = feed (kg)
 e = the model's error term
 β_1 = Coefficient
 β_0 = Constant

RESULTS AND DISCUSSION

Feed Type Used Among Poultry Farmers

The result of feed type used among poultry farmers is presented in Table 1. Feed type used in Makurdi metropolis include Hybrid feed (61.0%), Amo feed, Top feed (14.0%), Chukun feed (13.0%), Vital feed (3.0%), Jargaba feed (2.0%) and supreme feed (2.0%). The result implies that majority (61.0%) of the poultry farmers in the study area used hybrid feed because hybrid feed is considered as a balance poultry feed. This result contrast that of Akpantaku *et al.* (2006) who reported that farmers in Oyo State preferred self-compounded feed instead of commercially compounded feed because they are of better quality.

Table 1: Frequency Distribution showing Choice of Feed Types

Type of feed	Frequency	Percentage
Amo Byng	14	14.0
Chukun	5	5.0
Hybrid	61	61.0
Jargaba	2	2.0
Supreme	2	2.0
Top	13	13.0
Vital	3	3.0
Total	100	100

Source: Field survey, 2020

Reasons for Choice of Feed Type

Findings in Table 2 present reasons for the choice of feed type. Majority (74.0%) made choice of feed based on recommendation from others, 10.0% made theirs based on lesser price and 7.0% made theirs based on accessibility. This implies that most respondents made choice of feed type based on other people testimonies of feed on poultry performance, while some were not necessarily based on the quality of the feed, but, based on their purchasing power and availability of feed. This result is in contrast to that of Yusuf and Dingle (2002) who reported that choice of feedstuff was made based on energy source (maize, rice bran, sorghum or wheat) protein source (soybean meal, meat meal, fish meal, or coconut meal) and calcium source (Oyester-shell grit) depending on the type of poultry.



Table 2: Frequency Distributions showing Reasons for choice of feed type

Reasons for choice feed type	Frequency	Percentage
Recommended by others	74	74.0
Accessibility	7	7.0
Better productivity	2	2.0
Enhances growth	2	2.0
Higher nutritional value	4	4.0
Lesser price	10	10.0
Availability	1	1.0
Total	100	100

Source: Field survey, 2020

Output by Feed Type

Analysis in Table 3 presents the result of output and revenue by feed type. The result revealed a mean poultry output of 458.33 kg and a mean revenue of ₦550,000.00 from use of Vital feed, Top feed had output mean of 325.53 kg and a mean revenue of ₦437,130.77 whereas Amo feed had a mean output of 320.2854(kg) and a mean revenue of ₦410,250.00. The result implies that the three feeds had more increased output and return in poultry production. This could be as a result of higher growth rate, higher feed utilization rate and low disease incidence from those feeds as perceived by farmers in the study area.

Table 3: Respondents' output and revenue by feed type

Output and revenue by feed type	Min.	Max.	Mean	Std. dev.
Output (kg)	96.0	590	320.0	145.73
Amo TR	120000	737500	410250	177273.230
Output (kg)	210	488.50	280.90	97.09
Chukun TR	280000	598000	362100	97.09
Output (kg)	49	862.5	301.99	180.20
Hybrid TR	73500	1035000	385262.30	217966.561
Output (kg)	145.5	213	179.25	47.72
Jargaba TR	194000	284000	239000	63639.610
Output (kg)	109.5	172.5	141	44.72
Supreme TR	146000	230000	188000	59396.970
Output (kg)	138	582	325.53	141.93
Top TR	19200	72700	437130.77	209951.159
Output (kg)	425	475	458.33	28.86
Vital TR	510000	570000	550000	34641.016

Source: Field survey, 2020

Influence of Inputs on Poultry Output

The result of influence of inputs on poultry output is presented in Table 4. The data was fitted to four functional forms (Double log, Exponential, semi log and linear forms). Double log was selected as the lead equation because it had the highest R^2 (0.910) and lowest standard error (0.16700) and hence used for interpretation of the result.



Table 4: Regression Analysis Showing influence of inputs on Poultry Output

Variables	Double Log	Semi-Log	Exponential	Linear
Constant	0.499(1.53)	-1157.636(-5.878)	4.265(35.699)	-5.617(-0.171)
Drugs	-0.076(-1.220)	-13.986(-0.493)	-4.527E-005(-1.330)	-0.005(-0.544)
No of chicks	1.071(17.330)***	281.340(10.012)***	0.006(12.875)***	1.921(14.555)
Water	0.044(0.034)	31.842(0.851)	0.026(1.536)	-6.030(-1.307)
Labour	0.073(0.034)	8.736(0.357)	0.034(1.410)	5.002(0.764)
Amo	0.004(0.531)	-0.177(-0.048)	5.459E-005(0.655)	0.014(0.620)
Chukun	0.005(0.547)	-1.903(-0.455)	1.481E-005(0.148)	-0.004(-1.154)
Hybrid	0.003(0.369)	0.099(0.030)	1.838E-005(0.232)	0.008(0.380)
Top	-0.002(-0.185)	-1.781(-0.466)	-2.677E-005(-0.297)	-0.010(-0.413)
R ²	0.910	0.785	0.848	0.879
F	104.056	37.336	63.725	74.193
Standard Error	0.16700	75.93515	0.20759	57.00365

*** at 1% level

Source: Field survey 2020

The result (Table 4) of Double log showed an R² of 0.910. This implies that 91% of changes in the output of poultry were explained by variation in inputs in the model. Furthermore, the result of F-test (104.056) was significant at 1% level. This implies that feed and other inputs included in the model jointly influenced output of poultry. Specifically, only number of chicks significantly influenced output of poultry. The positive and significant coefficient of number chicks (1.017) implies that the increase in the number of chicks increase output in poultry in the study area. The result further implies that increase in the number of birds by 1 will increase output of poultry by 1.071%.

CONCLUSION AND RECOMMENDATIONS

The study concludes that Hybrid feed is mostly used for poultry production and the choice of feed type used by respondents was mostly (74%) based on recommendation from other people. Vital, Top and Amo feed had increased returns in poultry production; number of chicks had significant influence on poultry output. Based on the findings, of the study the researcher makes the following recommendations: males should be encouraged to invest into poultry production to boost more productivity; Vital, Top and Amo feeds should be used by poultry famers for greater returns; poultry farmers should aim at expanding their farm size (number of chicks) to increase output and hatcheries should also make chicks available at affordable prices.

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