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APPRAISAL OF RABBIT PRODUCTION IN CALABAR METROPOLIS OF CROSS RIVER STATE, NIGERIA.

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Target Audience: Livestock Scientists, Agric. Officers, Extension Staff and Farmers.

ABSTRACT

A survey of 105 farmers randomly selected from five zones in Calabar Metropolis of Cross Rivers State using a structured questionnaire was conducted between June and August, 1996. Most of the respondents were within the age range of 10 and 30 years (76.19%) and adults above 30 years (23.81%). The estimated rabbit population was 3,104 comprising of 368 matured bucks, 651 matured does, 1,552 weaners and 433 kittens. The commonest breeds of rabbits reared were Chinchilla (41.45%) and Newzealand white and black (5.72%). Majority of the respondents (61.91%) fed their rabbits with a combination of forages and concentrate. Disease prevalence reported included skin diseases, (65.78%), pneumonia (21.5%) and diarrhoea (7.8%) while production constraints identified were diseases (32.61%), feeds and feeding (21.1%), lack of awareness (15.22%) and marketing channels (10.86%). The result revealed significantly higher ($P<0.05$) mortality rates among the kittens (56-80%) and weaners (16-40%) and non significant ($P>0.05$) level in mortality rate among the adult rabbits (3.70 - 6.25%) across the different breeds studied. Based on the production estimates and constraints more than half of the respondents (55.24%) indicated that domestic rabbit production in Calabar Metropolis of Cross River State is moderately practised.

DESCRIPTION OF PROBLEM

The major source of animal protein in Cross River State, particularly Calabar metropolis, has been through the conventional livestock. Other sources are from fishes and bush meat. These sources have not been able to meet up with the animal protein needs of the populace within the state.

The development of domestic rabbit in recent years has been recommended as an alternative source of cheap, high quality dietary protein for the escalating human population (1,2). This is due to the relatively low cost of rabbit production and fast growth rate (3,4,5); short generation interval and high production potentials; prolificacy (6); absence of religious hindrance to consumption of rabbit meat (6,7,8); nutritional quality of rabbit meat (9); lack of competition with humans for the same food and minimal zoonotic health

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hazards (8). Besides, rabbit meat has good meat to bone ratio (10), meat is lower in calories (1,749 Kcal/kg) than other meats and low in cholesterol and sodium contents (12). It was based on these numerous advantages of rabbit that the need for farmers and government agencies such as National Directorate for Employment (NDE), Agricultural Development Project (ADP), to give rabbit production a top priority in their programme of activities was advocated (13). The aim of the study was to appraise the general production level of domestic rabbit and the constraints militating against its rapid expansion in the Calabar Metropolis of the state.

MATERIALS AND METHODS

The survey was conducted in five major zones located in the Calabar metropolis by means of structured questionnaire administered to a total of 105 farmers. The aspects covered by the questionnaire were demographic data on the respondents, sources of stock, management system (housing, feeding, watering, healthcare), marketing channels and constraints to rabbit production. The numerical aspects of the information gathered were analysed using descriptive statistics (percentages and ranges).

RESULTS AND DISCUSSION

The population distribution of domestic rabbit in the study area are shown in Table 1

1. The result revealed a total population of 3,104 rabbits, made up of 368 matured bucks, 651 matured does, 1,552 weaners and 433 kittens. The high number of rabbits in the state may be attributed to an increased awareness of the potential of rabbit as a source of animal protein. Its popularity and the possibility of its becoming one of the most important livestock specie in Nigeria has been reported (3).

Table 1: Population and Distribution of Rabbit in The Calabar Metropolis

Categories	Number
Number of matured does	651
Number of matured bucks	368
Number of kittens	433
Number of weaner/growers	1552

76.19% of the respondents were within the age range of 10-30 years (Fig.1). This result shows the quick acceptance and personal love for rabbit keeping as a hobby by the youngsters. About 65.22% of the respondents owned between 1 and 20 rabbits while 15.71% owned over 40 rabbits (Fig. 2), revealing that rabbit production is still being practised on a small scale in the Calabar metropolis. This confirmed that rabbit production in Nigeria is a relatively recent development (14) but when properly managed and publicised, may replace the conventional livestock in meat supply to the teeming populace.

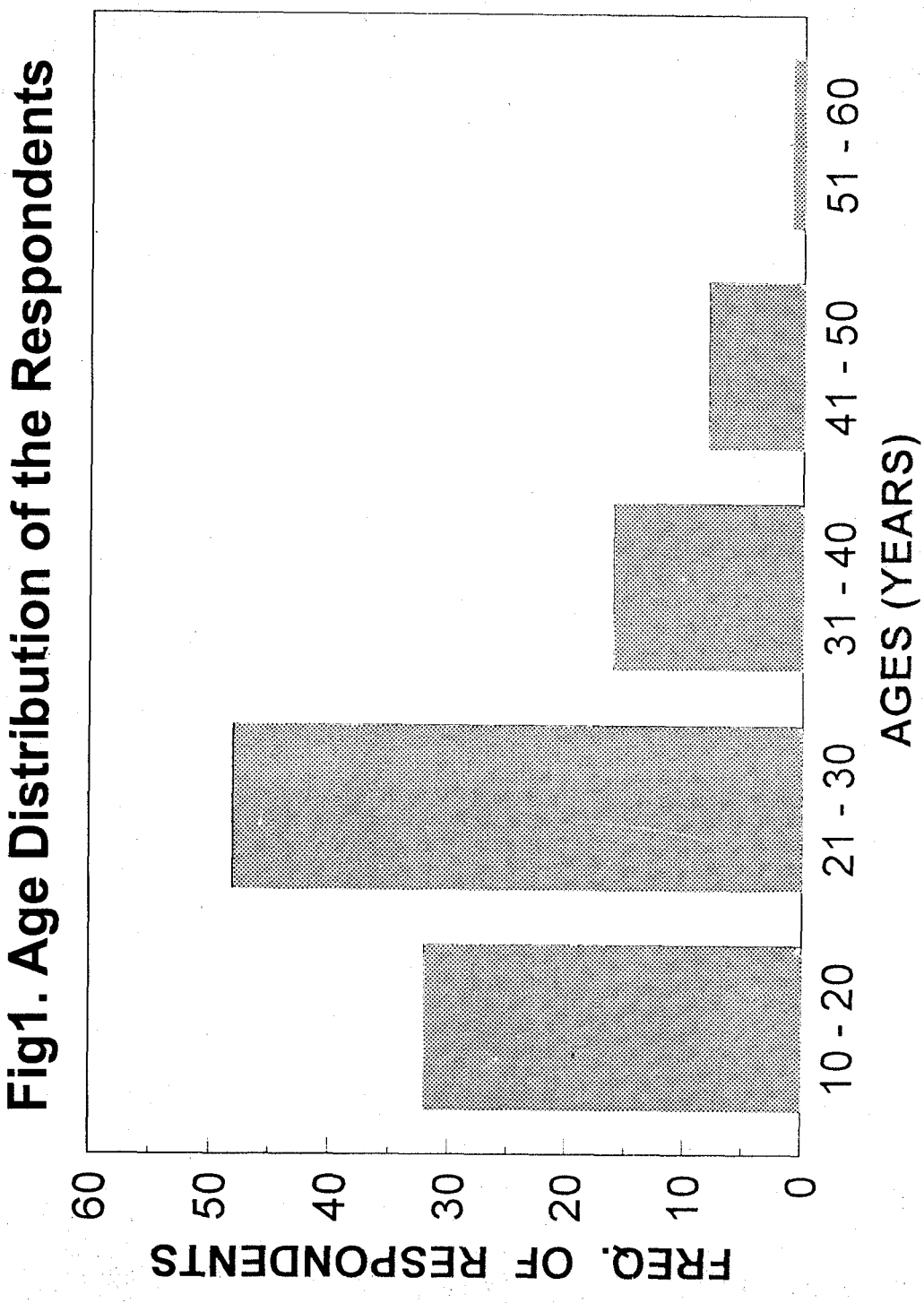
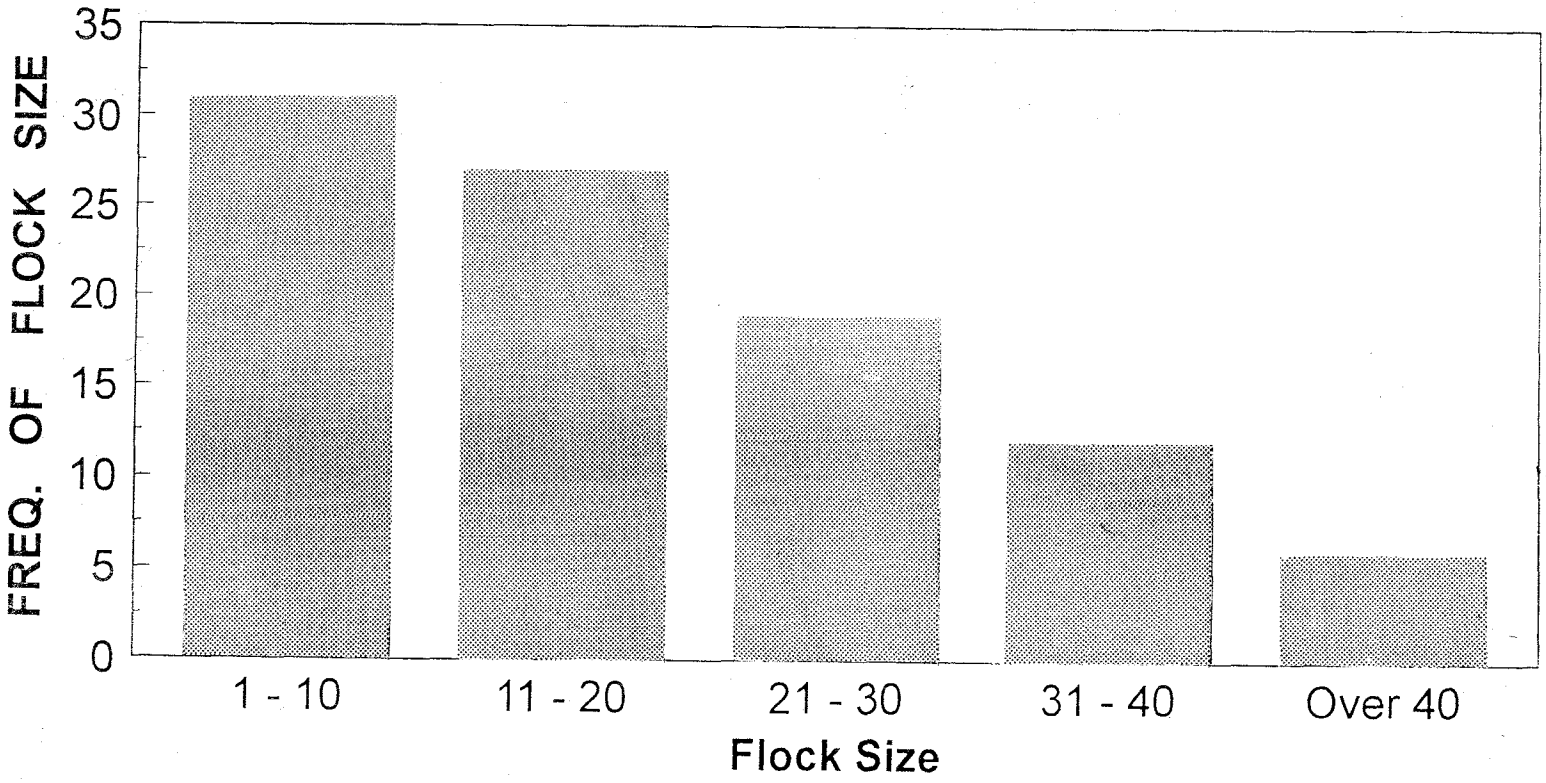


Fig1. Age Distribution of the Respondents
FREQ. OF RESPONDENTS
0
10
20
30
40
50
60
10 - 20
21 - 30
31 - 40
41 - 50
51 - 60
AGES (YEARS)

Fig 2. Distribution of Flock Size of Rabbit



The most popular breeds in the study were the Chinchilla (4145%), Newzealand white (37.71%) and Newzealand black (1302%). On housing, 95.24% of the respondents kept their rabbits in hutches while 2.86% and 1.91% of the respondents kept theirs in pens with litter and on bare floor respectively. The pens with litter and bare floor systems were not hygienic as these housing systems encouraged disease outbreak or spread through contact (15).

On mode of feeding, 61.91% of the respondents fed their rabbits with a combination of forage and concentrate whereas 11.42% and 61.19% fed their rabbits with either forages or concentrate only respectively. No respondent fed his rabbit with pellets only whereas 11.55% of the respondents fed theirs with a combination of forages as pellets. The higher percentages of those feeding rabbits with the combination of forages and concentrate can be attributed to the fact that such rabbits perform better (5,16,17). The most commonly used forages were sweat potato leaves (30.51%), followed by *Centrosome pubescens* (27.79%) and *Panicum maximum* (23.39%). The preference for sweet potato leaves by rabbits was due to the fact that the forage is soft and very palatable. The palatability of forages is an important factor in rabbit production, particularly when the forages are expected to provide a major part of the daily nutrient intake (18).

The result of kindling performances showed that 79.94%, 14.68% and 4.76% of the respondents had high litter sizes between 4 and 9 kittens, less than 4 kittens and 10-12 kittens among their herds respectively. The result further supported the various reports that the rabbit is a prolific animal (5,6,19,20, 21).

Mortality results showed that chinchilla and Newzealand White breeds recorded high dead rates of 38.22% and 31.85 among the respondents respectively, whereas other breeds like Californian White and Newzealand black recorded mortality rates of 12.74% and 14.10% respectively (Fig. 3). The mortality rates are unconnected with the genetic potentials of the rabbits but were due to high population flock size and environmental factors such as housing, feeding methods and health care/sanitary conditions within the herd. The result is in contrast with the findings that about 25% of kittens kindled by doels were lost at each kindling (5). The higher mortality percentage recorded for chinchilla and Newzealand White might be mostly due to sanity problems in the herds. The result further revealed significantly higher ($P<0.01$) mortality rate among kittens (56-80%), weaners (16-40%) and adult rabbits (3.70-6.25%) across the different breeds studied (Fig. 3). This confirms the findings that adult rabbits are less susceptible to disease conditions than kittens and weaners (15).

Fig 3. MORTALITY RATES AMONG THE DIFFERENT BREEDS AND AGE GROUPS

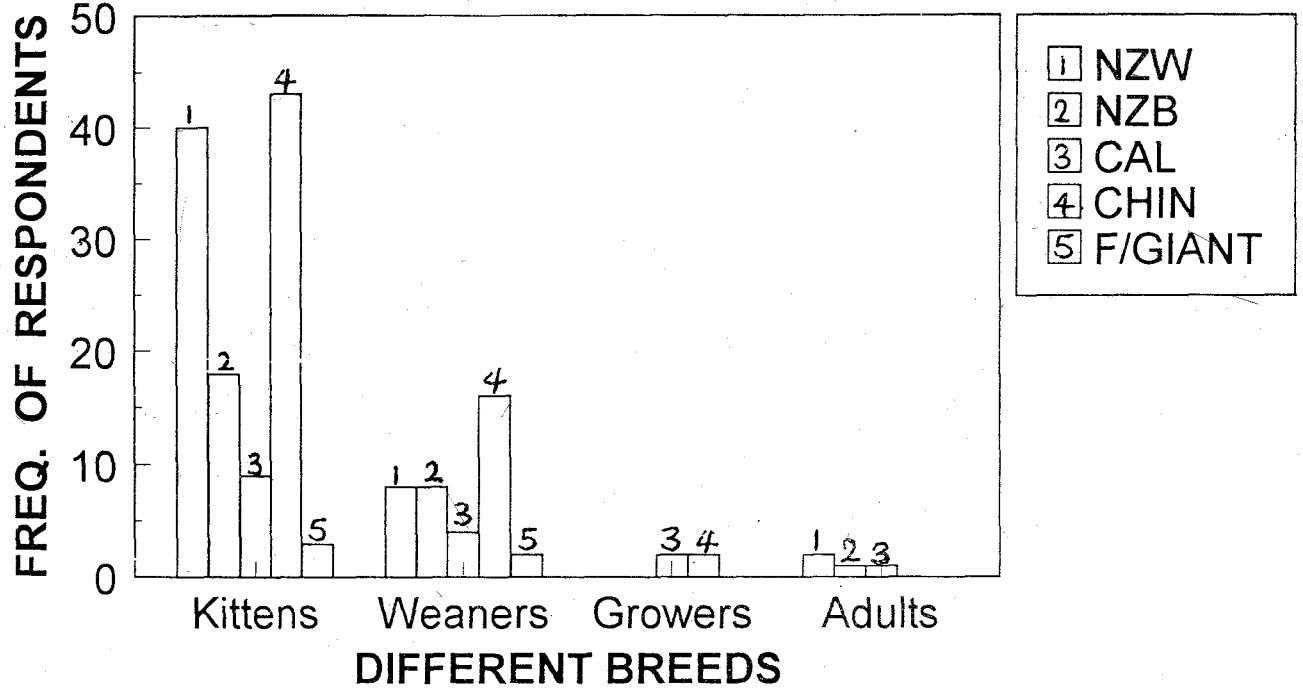
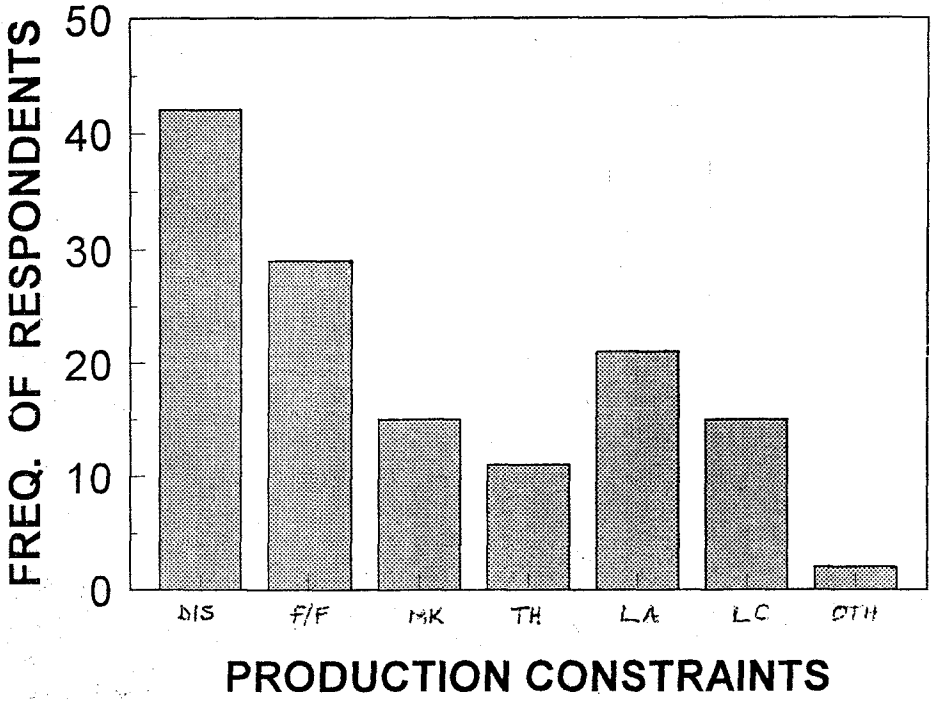


Fig 4. Production Constraints of Rabbits in Calabar Metropolis



KEYS

DIS:Diseases
F/F: Feeds and Feeding
MK: Marketing
TH: Theft
LA: Lack of Anareness of Rabbit meat
LC: Lack of capital
OTH: Others.

On disease prevalence, skin disease topped the list with 65.78%, followed by pneumonia (21.05%) and diarrhoea (7.8%). The high percentage of respondents on skin disease may also be attributed to poor sanity measures adopted within the herds as most old faeces and solid beddings were not removed daily and disposed immediately. Besides, anti-bacterial drugs like terramycin were neither added into water supplied to the rabbits nor were the rabbits ever vaccinated against disease problems as at when due. This may not be unconnected with the high cost of drugs and vaccines which are beyond the reach of most small local farmers as well as lack of proper awareness by extension workers, on the diagnosis and treatment of rabbit diseases.

The most important identified production constraints by the respondents were diseases (31.11%), feeds and feeding (21.48%) and lack of awareness of values of rabbit meat (15.56%) as shown in figure 4. This result is in contrast with the findings on minimal zoonotic health hazards (8). The observation that disease is the most prevalent constraint to rabbit production in Calabar metropolis calls for an urgent need to develop effective methods or packages of disease control in the area for large scale production of rabbit as another source of animal protein judging from the rich, high quality protein of rabbit meat.

The result of marketing channel revealed that more than three quarters (86.04%) of the respondents sold their animals (rabbits) to individuals whereas only 9.50% and 2.40% of the respondents sold to research stations and hoteliers respectively. The highest proportion of sales to individuals confirmed the fact that most people in the area of study are getting involved in rabbit production as well as expanding the already existing ones. However, more awareness is needed in the other sectors especially among hoteliers, since rabbit meat has good meat to bone ratio (10), lower in free fatty acid than other meat (9), richer in protein than most other meat (22) and relatively lower in droppage in value of organoleptic properties which in an index of spoilage when compared to beef (10).

The general assessment of rabbit production among respondents in Calabar metropolis was 55.42% showing that it is moderately practised. Since rabbit production offers farmers among other benefits a readily accessible income and serves as a source of high quality animal protein for their families in addition to its socio-economic value, there is an urgent need to develop and implement intervention programmes that will minimize high mortality rate experienced among the kittens and weaners in other to increase the level of production in the state. This when done will go a long way to boost the acute shortage of dietary animal protein supply and increase the average daily protein intake.

Table 2: Age Distribution of the Respondents

Age (years)	Frequency
10-20	32
21-30	48
31-40	16
41-50	8
51-60	1

Table 3: Distribution of Flock size of Rabbit

Flock size	Frequency
1-10	31
11-20	27
12-30	19
31-40	12
Over - 40	6

Table 4: Mortality Rates Among the Different Breeds and Age Groups

Age Group	NZW	NZB	CAL	CHIN	F/GIANT
Kitten	40	18	9	43	3
Weaners	8	8	4	16	2
Growers	0	0	2	2	0
Adult	2	1	1	0	0

Table 5: Production Constraint of Rabbits in Calabar Metropolis

Constraints	Frequency
Diseases	42
Feeds and Feeding	29
Marketing	15
Theft	11
Lack of Awareness on value of rabbit meat	21
Lack of capital	15
Others	2

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