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PROMOTION OF RABBIT PRODUCTION AMONG THE PEOPLE OF FADA AND DAMBO COMMUNITY OF ZARIA LOCAL GOVERNMENT OF KADUNA STATE

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ABSTRACT

A field trial was conducted during the Supervised Experience Project (SEPs) to promote rabbit among selected farmers in Fada and Dambo communities in Zaria local government Area of Kaduna State. The field trial involved farmers group of 16 members, comprising of 8 members each from the two communities. The main objective was to enlighten and strengthen them on the production of rabbit and to encourage its adoption for income generation, improvement in nutritional status and skill acquisition. The study demonstrated that the production of rabbit is characterized by low initial capital investment, easy maintenance, does well on plant materials that are usually not used by humans, makes minimal demands on the family budget, enhances high prolificacy, and offers quick returns. For sustainability and strengthening the adoption of rabbits among the farmers, the following husbandry skill were taught: selection of breed, housing, handling rabbits, rabbit feed identification, mating, testing for kindling and mother care fostering, sexing and the prevention and control of disease .Fourteen does and the two buck were used as a foundation stock.In the first and second kindle 108 kittens were realized .The total cost of production was ₦15, 130.00. While the total revenue was ₦29, 862.00, the profit margin was N14, 732.00. Finding from the study revealed that rabbit production is a profitable venture. The study recommended that campaign should be intensified to advocate rabbit production

Keywords: Rabbit, Production, profitability

INTRODUCTION;

The rabbit belong to *phylum chordata,* sub phylum vertebrate and is of the family *hepodae* the genus; *oryetolagu*s and species *cunniculus.* The domestic rabbit *oryctolagus cuniculus*is suited to small scale production and back yard farming. They can easily be maintained cheaply on house hold waste (Hawes,1976) and require small space, hence its initial capital requirement low, putting less demands on the family budget and thrives on plant materials that are usually not use by humans (Cheeks *et al*.,1991). In Nigeria, rabbit keeping is fast gaining popularity since they produce meat is produced within a very short period. According to Harry (1968), rabbit raising in Ghana has been socially accepted on the basis of its low space requirement; the animals are highly reproductive and do not competition with human for food. In addition, there are no social taboos regarding the consumption of rabbit meat. In order to maximize food production and meet protein requirement in Nigeria, viable option need to be explored and evaluated (Owen *et al*., 2008).

Rabbit production is a veritable way of alleviating animal protein deficiency in Nigeria (Ajala and Balogun, 2004). Therabbit has immensepotentials and good attributes which include high growth rate, high efficiency in converting forage to meat, short gestation period, and high

prolificacy, relatively low cost of production, high nutritional quality of rabbit meat which includes low fat, sodium, and cholesterol levels. It also has a high protein level of about 20.8% and its consumption is bereft of cultural and religious biases (Biobaku and Oguntona,1997). Rabbit meat contains the highest amount of digestable protein and lowest cholesterol and fat of all types of meat. Rabbits are also easy to raise, they are clean and require little capital, labour, time and space to manage (Iwuoha, 2014). Olawale (2012). Rabbit meat is tasty and has low fat content. This has resulted in a high demand for rabbit meat from individual and the hotel industry, an opportunity the youth can take advantage of to make income. In Nigeria one kilogram sells for about N1500 and N2000. The presence of caecal microbes enables the rabbit to digest large amounts of fibrous feed as most non ruminant species cannot (Taiwo *et al*., 1999).

However, the rabbit's potential for production is legendary. In theory a single male and four female can produce as many as 3000 off-springs a year representing a good percentage of meat obtained from an average size cow (Cheeke,1980). Cheeke (1980) further described the meat as pink, delicately flavored and usually considered a premium product that provide variety in diet. It has more protein and less fat, less cholesterol, low sodium per gram than beef, pork, lamb or chicken. The rabbit meat is highly palatable.

Janeiri (1987) reported that rabbit meat contains low cholesterol value of 169mg/100g on dry matter basis, compare with beef 200mg/100g and chicken 220mg/100g. The author also mention that it contains low sodium. In addition, rabbit meat has been approved by USDA as the best meat for hypertensive patients (USDA, 1973). Rabbits are well adapted to small farm situation where it's difficult to raise other kinds of livestock. Some rabbit are kept asa hobby but rabbit are also bred commercially for meat, fur, and pelts The fur is used in the manufacture of hats and skinsare used for leather or glue manufacture. Rabbit manure is rich in nutrients and often used in intensive vegetable production (Hawes, 1976).

This study was carried out in Fada and Dambo communities inorder to promote themto the advantages rabbit production which could offer with a view to increasing their income as well as family protein intake.The broad objective of this study was to enlightenand strengthen the production of rabbit among people of Fada and Dambo in Zaria Local Government Area of Kaduna State with the aim of improving their income, nutritional status and scales. The specific objectives of the study were to; Examine the socio-economic characteristics of the farmers in the studt area, promotion of rabbit production, identify and training of interested groups for collaboration, and determination of profitability of rabbit production among the groups.

MATERIALS AND METHOD

The study was conducted in Fada and Dambo village of Zaria city, Zaria local government of Kaduna state. Zaria is located on a plateau at a height of about 700m above sea level in the Centre of northern guinea savannah zone. There are two major season in the year. The raining season extend from late April to early October with a mean maximum temperature ranging from 27^{o} C during the raining season to 35^{o} C in April. The dry season also marks the harmattan period from November to January and the hot period from February to April. Soil type is sandy to sandy loam. The major crops grown include maize, sorghum, millet, yam, sweet potato, cowpea and groundnut. Others crops are vegetables grown under irrigation. Both men and women are involved in farming activities, but men take major and difficult task while women are mostly involved in harvesting, threshing and winnowing.

Some of the farmers are civil servants, but also keep some livestock such as goat, sheep,local chickens, duck and turkey. Zaria covers an area of about 11130sqkm with population density of 99 people per square kilometer. There are two major ethnic groups the Hausa and Fulanis who are predominantly muslims and other ethnic minorities. Dambo village is part of Zaria Local Government which situated 6 kilometer south east from Zaria city along Jos Federal highway.

SAMPLE SIZE AND SAMPLING PROCEDURE

Eight farmers were selected from each of the two villages to participate in the project without age limits. Gender involvement was five (5) women and eleven (11) men. Other interested farmers were allowed to participate in the training and demonstration as observers. The project limited itself to group of 16 farmers, eight from Fada and eight from Dambo village of Zaria Local Government area respectively.

DATA COLLECTION

In this study, data were collected using records of activities carried out during the implementation, observation and interview.

RESULT AND DISCUSSION.

A group of 16 farmers were established for the purpose of promoting of rabbit production as source of income and protein in two village community namely Fada and Dambo in Zaria Local Government Area of Kaduna State. The result (Table 1a) shows the group members were homogenous in nature with 31% female and 69% males. This agreed with Akanni and Odubuna (2003), that the majority (87.5%) were part-time male farmers while other were on full-time practices. Majorityof the farmers where (44%) are SSCE holder, (25%) are primary holder,(13%) are Grade II holder ,(6%) are NCE holder, and (6%) have none formal education. The marital status of the respondents showed (75%) are married, 19% are single and while 6% are widowers.

Table 1a. Socio- Economics profile of the responding farmers

Sex of the Respondent	Frequency	Percentage
Male	11	69
Female	5	31
Total	16	100
Level of Education	Frequency	Percentage
NCE	1	6
SSCE	7	44
GRADE II	2	13
JSCE	1	6
Primary	4	25
None formal education	1	6

Total	16	100
Marital Status	**Frequency**	**Percentage**
Married	12	75
Single	3	19
Widow	1	6
Total	16	100

The respondent's types of livestock kept is presented in table 1b. The respondents livestock rearing practice, shows that 56% of the farmers do not have any livestock, (19%) have local chicken reared, (13%) have goat reared, (6%) have sheep reared. For their rabbit production knowledge, 75% of the farmers are aware of rabbit production, (25%) are not aware of rabbit production. Those that have reared rabbit, 62.5% of the respondents reared the rabbit for sale, while (25%) reared rabbit for their personal consumption (meat) and 12.5% of the respondents reared rabbit for their pelt. The annual income earning of the respondents, 44% of the farmers their annual income is between ₦ 31000- ₦ 60000.

Table 1b. Livestock rearing experience and annual income of respondents

Other Livestock owned by group members	Frequency	Percentage
Sheep	1	6
Goat	2	13
Duck	1	6
Local Chickens	3	19
None	9	56
Total	16	100
Awareness	Frequency	Percentage
Yes	12	75
No	4	25
Total	16	100
Purpose of rabbit production	Frequency	Percentage
For sale	10	62.5
For personal consumption	4	25.0
For pelt	2	12.5
Total	16	100
Annual income	Frequency	Percentage
Below 30000	4	25
31000—60000	7	44
61000—90000	1	6
91000—120000	2	12.5
Above 120000	2	12.5
Total	16	100

COST OF RABBIT PRODUCTION FOR THE GROUP

The data in table 2 shows that the farmers group in Fada spent the sum of seven thousand nine hundred and eighty naira (₦7, 980) for the purchase of 8 rabbits foundation stock and feeding of 46 kittens. The farmers in Dambo location spent the sum of seven thousand one hundred and fifty naira (₦ 7150) for the purchase of 8 rabbits foundation stock and feeding of 62 kittens.

Table 2. Initial cost of starting the rabbit project in the study locations

Location	Items	Quantity	Total cost (₦)
Fada	Rabbit	8	2800
	Bran	50kg	2000
	Hay	--	1200
	Forage	--	480
	Miscellaneous	--	1500
Subtotal			7, 980
Dambo	Rabbit	8	2800
	Bran	50kg	1800
	Hay	--	900
	Forage	--	300
	Miscellaneous	--	1350
Subtotal			7150
Grand Total			15, 130

WEIGHTAND VALUE OF KITTENS AT WEANINGS

Table 4.3 Shows that the total weight of kittens weaned at Fada is 36.34kg while their monetary value is ₦ 12, 719. Where the farmers in Dambo recorded a total weaning weight of 48.98kg with a monetary value N17, 143. The total weaning weight for the two location is 85.32kg and monetary value for the whole project is N29, 862.00.

Table 3. Number and weight of kittens and monetary value

Location	Total weaned	Total weight weaned	Unit value kg (₦)	Monetary value (₦)
Fada	46	36.34kg	350	12, 719
Dambo	62	48.98kg	350	17, 143
Total weaned	108	85.32kg	350	29862

PROFITABILITY OF RABBIT PRODUCTION

Table 4 shows that the total cost expenditure for this research project at both Fada and Dambo areas. In Fada project site, cost of ₦7, 980 was incurred and a revenue of ₦12, 719. This gives a profit of ₦4, 739. While in Dambo project area, ₦7, 150 cost was incurred and ₦17, 143 as revenue, which resulted in ₦9, 993 profit. Total expenditure for the project was

₦15, 130 and total revenue of ₦29, 862 was realized in the project. Using the formula (π = TR – TC.), at the end of the project, ₦14, 732 was realized as profit. This is in line with (Akani and Odubuna (2003), who in their finding stated that rabbit rearing was found to be profitable with a profitability index of 0.43 and average annual net income of ₦8, 792.42. The rate of return on the investment was ₦405.65, ₦11, 793.84 on fixed items and ₦520.23 on variable items the farm net income was estimated to be ₦ 8, 433.90.

Table 4. Cost, expenditure and revenue for rabbit rearing in Fada and Dambo areas

Location	TC in ₦	TR in ₦	π TR - TC	Profit (₦)
Fada	7980	12719	12719 – 7980	4, 739
Dambo	7150	17143	17143 - 7150	9, 993
Total	15, 130	29, 862		14, 732

CONCLUSION

A partial study was conducted in participatory manner with two farmers group in Fada and Dambo village in Zaria local government of Kaduna state. The groups adopted the rabbit production technology, method demonstration, discussion, training and teaching aids were used such as picture, poster flip chart and live rabbits were carried out with the groups.

Inspite the problem encountered such as lack of availability of breeding stock and inadequate finances, this technology was highly welcomed and significant results were obtained with regards to the number of young rabbits (kittens) and their weight gains on breeding stock.

Total expenditure for the project was ₦15, 130 and total revenue of ₦29, 862 was realized in the project. The sum of ₦14, 732 was realized as profit.

RECOMMENDATION

Base on the result of the research conducted in the study area, the following recommendations are being suggested:

1. The farmers groups contacted for this project should formalize their groups by registering with the appropriate authorities such that they can obtain the necessary financial and material support needed to boost rabbit production in the area.
2. Government through Research Institute should ensure adequate production of rabbit breeds that are tolerant to the various region of Nigeria.
3. Farmers wishing to go for commercial production should be supported by financial institution through credit facilities.
4. Campaign should be intensified to advocate rabbit production, the advantages of eating and especially its superiority in health terms compared to beef and other animal protein source, as it can fits into farming system without interfering with other farming activities.

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