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## Perceptions of Poultry Farmers on the Use of Growth Enhancers in Poultry Production in Rivers State, Nigeria

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## Abstract

*The study examined the perceptions of poultry farmers on the use of growth enhancers in poultry production in Rivers State, Nigeria. Simple random sampling was used to select 120 farmers from each group of the twenty (20) poultry farmers groups in the FADAMA and RIV CARE projects in Rivers State. Data were collected through a structured questionnaire and analyzed using percentage and mean scores. Results revealed that farmers (90.0%) were aware of the use of growth enhancers and pelleting additives (64.1%), feeding enzymes 64.1%, and antibiotics (51.3%) were the major growth enhancers used by poultry farmers. The perceptions of poultry farmers on the use of growth enhancers in poultry production were improved growth ( $\bar{x}=3.83$ ), better nutrient utilization ( $\bar{x}=3.44$ ), higher production yield ( $\bar{x}=3.32$ ), consumer preference for organic products ( $\bar{x}=3.35$ ), safety and quality concerns ( $\bar{x}=3.05$ ), antibiotic resistance ( $\bar{x}=2.92$ ) amongst others. The study concluded that for an increase in the use of growth enhancers in poultry production, there is a need for stakeholders in poultry production to empower farmers with the knowledge needed to harness the potential of feed enhancers.*

## Introduction

The high rise in food security and nutrition awareness has caused a high demand for protein consumption in cuisines and foods. Due to the high demand for quality food consumption, demand has become so high that farmers cannot meet and satisfy consumers' quest for quality, well-fed animal sources of protein supply (Ismail, 2020).

Consumption of animal proteins has considerably increased recently, and there is a growing interest in overall protein. This has led to the use of growth enhancers and feed additives to enhance the flavour of feed, meet the need for certain nutrients, and increase the performance of animals in good health (Vasileios, 2019). These growth enhancers improve the nutritional quality of feed and enhance digestive activities as well. Some of the common feed enhancers are enzyme and prebiotics, antioxidants, and antibiotic growth promoters.

According to Nmeragini, et al. 2020, the high cost of poultry feed was one of the major factors limiting youths' involvement in poultry production. The high cost of poultry feed which constantly increases tremendously, and with the consumers demand for healthy birds has led to farmers' unending desire to fatten the birds for better sale. Depending so much on less nutritionally fortified feed with excess input in cash, time, resources, and energy without making much profit could be frustrating for farmers. Growth enhancers fatten the birds and reduce their rearing period. Udoye et al., 2024 reported that poultry farmers are beneficial in the poultry value chain due to their involvement in enhancing the quality and quantity of poultry products and services delivered. However, some poultry farmers, as well as consumers, believe that poultry growth enhancers could have severe consequences on the health of the birds and the health of the individuals who consume the birds. Poultry production is one of the fastest-growing livestock subsectors.

Therefore, the study accessed the perceptions of poultry farmers on the use of growth enhancers in poultry production in Rivers State, Nigeria. Specifically, the study (i) ascertained the awareness of the use of growth enhancers in poultry production; (ii) ascertained the sources of information on growth enhancers used by poultry farmers; (iii) ascertained types of growth enhancers used in poultry production; and (iv) determined the perceptions of poultry farmers on the use of growth enhancers in poultry production.

### **Methodology**

This study was conducted in Rivers State, Nigeria. Agriculture contributes substantially to the economy of Rivers State, employing the inhabitants. The population of this study comprised of the 20 poultry farmers group in the FADAMA and RIV CARE project in Rivers State, Nigeria. Six farmers were purposively selected from each of the twenty (20) groups of poultry farmers. These farmers were selected because they concentrated mainly on poultry farming. A total of one hundred and twenty (120) poultry farmers were used for this study. A structured questionnaire was used for primary data collection.

Data collected from the respondents were analysed using percentages, means and standard deviation. The awareness and use of growth enhancers in poultry production, the sources of information on growth enhancers used by poultry farmers, and types of growth enhancers used in poultry production were analysed using percentages. The positive and the negative perceptions of poultry farmers on the use of growth enhancers in poultry production were analysed using a 4-point Likert-type rating scale of strongly agree = 4; agree = 3; disagree = 2 and strongly disagree = 1, with the mean value of 2.5 as cut off.

## Results and Discussion

### Awareness and Use of Growth Enhancers in Poultry Production

Table 1 shows the awareness and the use of growth enhancers in the study area. Results show that 90.0% of the farmers were aware of the use of growth enhancers in poultry production. Also, 90.0% of the respondents use growth enhancers in poultry production.

**Table 1: Awareness and use of feed enhancers in poultry production**

Awareness and use of feed enhancers	Yes %
Aware	90.0
Use of growth enhancer	90.0

**Source:** Field survey, 2023

### Sources of Information on Growth Enhancers used by poultry farmers.

Table 2 shows the poultry farmers' sources of information on the use of growth enhancers. The result show that fellow farmers (84.6%), internet (64.1%) and social media (57.9%) were the major sources of information on the use of growth enhancers by the poultry farmers. Also, most of the poultry farmers got their information on growth enhancers from the radio (43.2%) and television (38.9%). This implies that the majority of poultry farmers prefer to consult fellow farmers, which might have little or no cost implication; the farmers support obtained information from the online media, which is also a form of interpersonal communication with immediate feedback. The low usage of print media for sourcing information could be as a result of lack of immediate feedback in using the medium.

**Table 2: Sources of information on the use of growth enhancers in poultry production**

Sources of information	Percentage (%)
Fellow farmers	84.6
Internet	64.1
Social media	57.9
Radio	43.2
Television	38.9
Print media	13.5
Billboard	10.8

**Source:** Field Survey, 2023

### Types of Growth Enhancers Used in Poultry Production among Farmers

Table 3 shows the types of growth enhancers used in poultry production. This result shows that the majority of poultry farmers use pelleting additives (64.1%), feeding enzymes (64.1%) and antibiotics (51.3%) as growth enhancers. This implies that a greater proportion of poultry farmers use pelleting additives and feeding

enzymes. Pelleting of feeds has been shown to improve the quality of feed in poultry farming. It is important to brand and package poultry feeds in bite-sized pellets without a lot of fines.

**Table 3: Types of growth enhancers used in poultry production**

Type of growth enhancers	(%) Yes
Antioxidant	18.4*
Free-flowing agents	25.6*
Pelleting additives	64.1*
Feeding enzymes	64.1*
Mold inhibitors or mycotoxin binder	10.5*
Antibiotics	51.3*
Antibiotic alternative	33.3*

Source: Field survey, 2023

*\*multiple response*

### Positive Perceptions of Poultry Farmers on the Use of Growth Enhancers in Poultry Production.

Table 4 shows the positive perceptions of poultry farmers on the use of growth enhancers in poultry production. The findings show that the farmers had positive perceptions of all nine (9) listed positive perceptions on the use of growth enhancers in poultry production. They include: improved growth ( $\bar{x}$ =3.83), better nutrient utilization ( $\bar{x}$ =3.44), higher production yield ( $\bar{x}$ =3.32), overall health ( $\bar{x}$ =3.28), boost immune function ( $\bar{x}$ =3.28), enhance feed efficacy ( $\bar{x}$ =3.23), promotes digestion ( $\bar{x}$ =3.08), antibiotic alternative ( $\bar{x}$  =2.85), environmental sustainability ( $\bar{x}$  =2.54). Indicating improved growth enhancers such as probiotics, prebiotics, and organic acids as being used to improve poultry production, means that the farmers might depend on only the available growth enhancers. The implication is that the farmers might find it difficult to adopt other new growth enhancers available, that could help enhance health, intensify nutrient absorption, and boost feed efficiency (Jhar, 2020)

Better nutrient utilization as perceived by the farmers signifies that it improves and enhances the quality of birds produced. This implies that the use of low-quality feed enhancers would affect the quality of birds produced. The addition of feed additives, such as enzymes and prebiotics enriches nutrient utilization and supports growth (Yang et al., 2022). Indicating higher production yield to growth enhancers would boost the growth of birds, and promote growth of birds to attain the desired weight for bounty harvest. This implies that growth enhancers can boost nutrient content, and improve the overall health of birds (Kpomasse, 2021). Certain growth enhancers would boost immune function as indicated. This implies that growth enhancers such as immune stimulants and herbal extracts will promote the health of birds in poultry production, reducing the rate of diseases and promoting bird health (Pourakbari et al., 2022).

Signifying that growth enhancers promote feed efficacy implies that they improve the efficiency of the birds' growth, egg laying, disease prevention, and feed utilization. In feed digestion, growth enhancers boost the breakdown of complex nutrients and help birds utilize feed ingredients (Rafiq, 2022). Using growth enhancers as antibiotic substitutes would mean that feed enhancers have gained importance in poultry

production. This could mean that the growing worries about the effect of antibiotic resistance could be replaced by growth enhancers in gut health (Yato et al., 2021). In environmental sustainability, effective utilization of feed nutrients through growth enhancers would minimize nutrient excretion and reduce waste in poultry droppings, thereby reducing the environmental side effects of poultry farm waste.

**Table 4: Positive perceptions of poultry farmers on the use of growth enhancers in poultry production.**

<b>Positive perceptions</b>	<b>Mean (<math>\bar{x}</math>)</b>	<b>Standard deviation</b>
Growth enhancers improve the growth of the birds to meet consumers' demands.	3.83	0.38
Growth enhancers aid in better nutrients in feeding the birds.	3.44	0.48
Increase higher yield of reduced cost of bird rearing.	3.32	0.59
Growth enhancers improve the health of birds and consumers are provided with nutrients	3.28	0.93
Boost the immune function of birds and reduce mortality rates.	3.28	0.80
Using growth enhancers enhance the efficacy of the feed consumed by birds.	3.23	0.99
Growth enhancer promotes digestion and gut of birds.	3.08	0.87
It is an alternative to antibiotics and prevents antibiotic resistance.	2.85	1.13
Reduces excessive waste of droppings and aids environmental sustainability.	2.54	0.78

**Source:** Field survey, 2023

Mean cut-off = 2.5

## **Negative Perceptions of Poultry Farmers on the Use of Growth Enhancers in Poultry Production.**

Table 5 shows the negative perceptions of poultry farmers on the use of growth enhancers. The findings show that the poultry farmers had high negative perceptions as regards consumer preference for organic products ( $\bar{x}$ =3.35), safety and quality concerns ( $\bar{x}$  =3.05), antibiotic resistance ( $\bar{x}$  =2.92), little to no knowledge of growth enhancers ( $\bar{x}$ =2.92), unsure of the efficacy and efficiency of the feed enhancers ( $\bar{x}$  =2.82), Unpleasant regulatory rules restrain farmers' use of growth enhancers ( $\bar{x}$  =2.73), high costs of growth enhancers ( $\bar{x}$  =2.62), low availability of growth enhancers to farmers ( $\bar{x}$ =2.55). Two of the items investigated were perceived as having low negative constraints. They had: long-term effects on food safety ( $\bar{x}$  =2.46) and potential harm ( $\bar{x}$  =2.35). Consumer preference for organic products as a major constraint means that the opinion of the consumers determines the decision of the farmers regarding the type of feed used in poultry production. Use of growth enhancers as against consumers' preference for organic feed could affect the farmers' sale of birds.

Safety and quality concerns of growth enhancers as a constraint means that these farmers could be small-scale farmers who need less to worry about. This could imply that these farmers might have used corn, kitchen waste and households' food remains to improve the quality of commercial feeds for the birds. This implies that the farmers' use of growth enhancers was purposely to fatten the birds and earn profit. Antibiotic resistance is a major constraint when poultry products are sold by farmers to consumers without fasting the birds for some weeks. Some growth enhancers can cause potential harm and infection in humans when consumed. This implies that growth enhancers could have long-term effects on food safety. Little to no knowledge of growth enhancers is considered a major constraint means that the farmers must be practicing an old method of feeding their birds. Therefore, to the farmers, growth enhancers might be new ideas for their skilled methods in poultry production. This implies that the farmers would have less knowledge about its importance. Indicating lack of the efficacy and efficiency of the feed enhancers means that the farmers have not long been accustomed to the use of growth enhancers in poultry production.

Unpleasant regulatory rules restrain farmers' use of growth enhancers which means that the farmers could find it time-consuming and tasking to read labels on directives and instructions on the use of various types of growth enhancers. Indicating high costs of growth enhancers as a challenge, means that the farmers might want to buy and use these growth enhancers in poultry production, unfortunately, are deterred by the cost. low availability of growth enhancers to farmers is considered a major constraint in poultry production.

**Table 5: Farmers negative perception of the use of growth enhancers**

<b>Negative Perceptions</b>	<b>Mean</b>	<b>Standard deviation</b>
Chemicals in the growth enhancers can cause medicine (antibiotic resistance) in treating birds.	2.92	1.01
Chemicals in the growth enhancers can cause Potential harm to consumers.	2.35	0.82
Components used can cause Long-term effects on humans.	2.46	0.81
Consumer preference on organic products is constraint on use of growth enhancers.	3.35	0.88
High costs of the product affect the farmer's profit.	2.62	1.13
Unpleasant regulatory rules restrain farmers use.	2.73	0.91
Little to no knowledge of growth enhancers by farmers and consumers.	2.92	0.87
Low availability of these enhancers to the farmers.	2.55	0.96
Unsure of the efficacy and efficiency of the feed enhancers in poultry production.	2.82	0.81
Too many unnecessary safety and quality concerns on the use of growth enhancers.	3.05	0.77

**Source:** Field Source 2023

Mean Mid-Point = 2.5

### **Conclusion and Recommendations**

The study concluded that growth enhancer usage is gradually becoming the mainstay of poultry production industry. Growth enhancers when used responsibly and as a part of a well-rounded approach to poultry nutrition and management have the potential to enhance poultry health, growth, and production. Poultry farmers who are informed and receptive to these benefits can make a more informed decision, contributing to improved poultry welfare, increased yields, and economic sustainability. As the poultry industry continues to evolve, it is imperative that stakeholders in poultry production and extension services prioritize the awareness and perception of growth enhancers. By doing so, poultry farmers will be empowered with the knowledge and understanding needed to harness the potentials of growth enhancers while maintaining a commitment to sustainable and ethical poultry farming practice. In this way, poultry farmers can support the advancement of poultry production and the well-being of the consumers.

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