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AWARENESS AND MITIGATION MEASURES OF AFLATOXIN AMONG POULTRY FARMERS AND FEED MILLERS IN IJEBU-ODE AND IGBESA AREA OF OGUN STATE, NIGERIA



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INTRODUCTION

1. In recent years, the Nigerian poultry industry has been rapidly expanding and has become one of the most commercialized sub-sectors of Nigerian agriculture (United States Department of Agriculture (USDA), 2021).
2. However, poultry feed ingredients which comprises of maize, peanut meal, soya bean meal and mixtures of maize, groundnut cake and other crops have been associated with aflatoxin contamination during crop production and storage (Kimanya et al., 2008), with limited attention given to this by local poultry farmers and regulatory bodies. Food and Agriculture Organization (FAO) (2010) reports that about a quarter of the world's growing crops are affected by aflatoxins each year.
3. In a recent study by Oyegunwa et al., (2021) on aflatoxin contamination in maize and other poultry feed ingredients obtained from feed mills in Ijebu Ode, all ingredients tested for aflatoxin contamination were above the European regulatory limit of 20ppb aflatoxins.
4. This has raised the question of whether the farmers who patronize these feed mills are aware of the presence of aflatoxin in the feed ingredients or not. Such knowledge gap needs to be filled.
5. Therefore, the purpose of this study is to assess the level of awareness and mitigation measures of aflatoxin among poultry farmers and feed millers in Ijebu-Ode and Igbesa area of Ogun State, Nigeria.



Fig. 1 - Maize infected with Aflatoxin



Fig. 2 - Transmission of Aflatoxin from feed to human beings

MATERIALS AND METHODS

1. Study Area

The study was carried out in Ogun State. Ogun State is located in Southwestern part of Nigeria and covers 16,762 square kilometers. Ondo State to the east, Oyo and Osun states to the north, Lagos State to the south, and the Republic of Benin to the west are its neighbors. Ogun State is blessed with natural resources, including mineral deposits and a large area of rich soil excellent for farming.



Fig. 3 - Researchers collecting data at Igbesa.



Fig. 4 - Researchers collecting data at Ijebu-Ode.

Table 1: Categorization of level of awareness of Aflatoxin among respondents

Category	F	%	Min.	Max.
Low	63	52.5	5.00	24.00
High	57	47.5		
Mean ± SD	2.5±1.8			

Source: Field survey, 2023

Table 2: Mean and ranking of mitigation measures adopted by the respondents

Items	Mean	Rank
Avoidance of contaminated feed	2.113	1 st
Safe disposal of contaminated feed	1.654	2 nd
Improved public awareness on aflatoxin	1.638	3 rd
Lowering mold growth in harvested crops	1.560	4 th
Planting pest-resistant varieties of crops	1.549	5 th
Improving feed storage hygiene	1.500	6 th
Modulating the metabolism of ingested aflatoxin	1.459	7 th
Reducing internal dose and subsequent risk	1.300	8 th
Prophylactic control measures	1.294	9 th
Strengthening extension services for awareness	1.254	10 th
Clay-based enterosorbents	1.201	11 th
Proper implementation of feed safety policies	1.190	12 th

Source: Field survey, 2023

CONCLUSION

The study showed that both poultry farmers and feed millers in the study area were not adequately informed about aflatoxin, with over 50.0% of participants exhibiting a lack of awareness concerning these toxins, their occurrence, predisposing factors, and associated risks to animals and humans. Few respondents who were aware of aflatoxin adopted avoidance of contaminated feed, safe disposal of contaminated feed, improved public awareness on aflatoxin, lowering mold growth in harvested crops, planting pest-resistant varieties of crops, improving feed storage hygiene and many more as mitigating measures of aflatoxin in the study area.

RECOMMENDATIONS

Based on the findings highlighted, it is recommended that:

- i. The government should develop strategies targeted at minimizing aflatoxins contamination while the maize is still in the field (pre-harvest).
- ii. Strengthening of existing public extension services to enable it to deliver useful updates or information on aflatoxins and its mitigating measures.
- iii. Government and private sectors should play a crucial role in strengthening policies that impact on feed safety, as well as support risk assessment initiatives to ensure that well thought out standards for aflatoxins are in place.

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