



ADULTERATION OF LIVESTOCK FEEDSTUFFS AND ITS ECONOMIC IMPLICATIONS

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ABSTRACT

Adulteration can be described as the act of adding foreign substances deliberately or accidentally into the original ingredient for financial gain or due to carelessness and lack of proper hygienic condition during processing, storing, transportation and marketing. There are two types of adulteration, deliberate adulteration and in-deliberate adulteration. Ingredients commonly adulterated includes Maize, Fish meal, Groundnut cake (GNC), Maize offal's and other micro ingredients. The effects of adulteration have deleterious effect on livestock which leads to poor performance. Economically, it is detrimental to revenue generation drive of the government. Feed Adulteration can be curbed through: effective pest control regime should be implemented, periodic testing, feed ingredient should be obtained from a safe source.

INTRODUCTION

Food and drink products are often a target of adulteration (intentional or unintentional) while supply chains usually deal with perishable products that could be harmful to consumers if they are not managed properly (SGS, 2013). Adulteration is the act of either by adding extraneous substances (adulterants) into food items or products or reducing essential nutrients partly or wholly for financial gain or due to carelessness and lack of proper hygienic condition during processing, storing, transportation and marketing. This ultimately results that the consumer is either cheated or often become victim of diseases. Because of that it is important for the consumer to know the common adulterants and their effect, since the increasing number of feed producer and the outstanding amount of feedstuffs import enables the producers to mislead and cheat consumers (Anita and Neetu, 2013). Economically motivated adulteration, however, involves purposeful and intentional replacement of the expected feed substance with a cheaper one.

TYPES OF ADULTERATION

Either because of high demand or seasonality in supply, various feed ingredients can be adulterated in diverse situations. According to different authors like El-loly et al., (2013), Asrat and Yilma (2014) and Nayaran (2014)..

Intentional/deliberate Adulteration

This is the fraudulent addition of extraneous, improper or cheaper ingredients to products or dilution or removal of some valuable ingredients in order to increase profits.

Incidental/unknown adulteration

This type of adulteration is brought due to lack of proper hygienic conditions of feed ingredients throughout production site to consumption table. Here the producers or traders/retailers are not in position to add different adulterants but the ways the products are produced, handled, passed, processed, stored, transported and marketed may be the places where they were contaminated or adulterated since any substance Without its original is extraneous to the product; include: residual pesticides from cans, rodent droppings, preservatives, (Narayan, 2014) and Asrat and Yilma (2014).

Some common adulterants in feedstuffs

Full fat soya mixed with ground yellow maize added, Lysine mixed with Brown yam flour, Methionine mixed with Cassava flour, Ground bone meal mixed with Charcoal, Ground Oster shell mixed with Bar beach sand, Maize mixed with chopped cobs and chaff.

CAUSES OF INTENTIONAL/UNINTENTIONAL ADULTERATION

Intentional adulteration



- I. The main reason that attracts adulteration is for boosting their cash income by increasing its volume. Even though increasing their profit margins initiated adulteration done by some selfish producers, processors and retailers.
- II. Similarly, any break in steady supply of original product or service could induce the introduction of fake and adulterated ones in order to meet the demand by users. Here, the new sources may not be immediately differentiated or identified and therefore the stringent measures which original producers are subjected to would have been avoided.

Unintentional adulteration/contamination

- I. Rat and lizard are reservoirs for zoonotic disease such as Salmonellosis and Bubonic plague and are vectors of livestock and poultry disease such as Bird flu and many other Bacteria and Fungi disease.
- II. Mold due to moisture from leaking roofs or poor covering during transportation in bad weather. Some grains come from the farm with infestation and are usually not treated.

Effect of adulteration

The problems of adulteration makes the feedstuffs used in finished feed unsafe and unhygienic for use due to poor handling (Asrat et al., 2012). Consumption of adulterated feed causes serious diseases and poor performance in livestock.

Effect of feedstuff adulteration on livestock industry

Contamination of feeds arising from naturally occurring toxicants, microbiological contaminants, and chemical contaminants, such additives used above the permitted levels, pesticides and veterinary residues in feed or as toxic component from feed processing could have deleterious effect in animals.

Effect of feedstuff adulteration on economy

Livestock output depends on the quality feed which is archive through quality feedstuffs, adulterated feed ingredient affect the output performance of livestock, economically, it is detrimental to revenue generation drive of the government, Nigeria suffered huge loss to product adulteration. About N15 billion is said to be annually lost to fake and substandard product in Nigeria (Leadership 4 December, 2017).

How to cubed/reduce ingredients adulteration

- I. Personnel should be trained to understand the ingredient, knowledge of ingredient authenticity, their identity, quality and purity should be fundamental.
- II. Periodic testing: An essential supplement to quality and safety that anchors them together in reality is periodic testing to verify the authenticity of feed ingredients-proof that feed ingredients are what they say they are.
- III. The feed manufacturers should follow the applicable guidelines established by NIAS in purchasing feed ingredients.
- IV. The ingredients store should be designed so that it can be adequately cleaned, and ingredients should be stored in a manner that will not encourage microbial growth of contaminants.

Conclusion and Recommendations

Food adulteration has negative impacts on public health. The causes for feedstuff adulteration are; profit margin by increasing volume of the products and dishonesty of producers, retailers and processors. This ultimately results that the consumer is either cheated or often become victim of diseases on his animals. Consumption of adulterated feed causes serious diseases like chronic respiratory disease, diarrhea, and poor performances of livestock. Therefore, the following recommendations were forwarded; adequate laws, funding and staffing should be appeared to control above discussed causes of adulteration. NIAS, NAFDAC and SON should liaise with each other to regulate the feedstuff quality.

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