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Fungal deterioration of processed meats (Suya) commonly sold in Wunti and Muda-Lawal Open Market places of Bauchi metropolis, Bauchi state, Nigeria

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Abstract
A research was conducted to determine the fungal deterioration of processed meat (SUYA) samples commonly sold in Muda-Lawal and Wunti open market places of Bauchi Metropolis, Bauchi State. The total of five (5) different samples were collected from the study areas inside sterile containers and thereafter transported to the laboratory for analysis. Malt Extract Agar (MEA) was used for the isolation of different fungal metabolites. The total of five (5) different fungal species were isolated and characterized using standard method, and these included; *Aspergillus Niger, Aspergillus flavus, Fusarium verticilliodes, Penicillium spp,* and *Mucor spp* respectively. However, *Aspergillus spp* is the predominant among the fungal isolates. Environmental parameters were also determined such as temperature, pH and moisture content. Therefore, it can be recommended that processed meat sellers must deeply and comprehensively smoked or fried their products prior sale. Moreover, environmental hygiene must also be observe and maintain.

Keywords: Wunti and Muda-Lawal Open Market place, suya, mea

Introduction
Meat which refers to skeletal muscles, connective tissues or fat, and others included brain, heart, liver, kidney, pancrease, spleen, and thymus tongue that are used as food, excluding the bone and bone marrow which contains high biological value protein and micronutrients that are needed for growth and development (Cortyl, L. 2008) [2]. Humans have hunted and killed several animals for meat production since pre-historic times. The advent of civilization allowed the domestication of animals such as chickens, sheep, rabbits, goats, and cattles. This eventually led to their use in meat production or an industrial scale with the aid of slaughterhouses (Adejoye, O.D., 2017) [1].

Meat is important in economy and culture, even though its mass production and consumption has been determined to pose risks for human health and the environment. Processed meats has been widely prepared in various forms, such as smoked, dried, fried, boiled or cooked. A processed meats can be contaminated due to the ubiguitors nature of wide variety of microorganisms such as fungal, bacterial or viral. Contaminated processed meat samples led to the production of mycotoxins and its associate (R. Ibrahim *et al.,* 2019) [4].

Meat consumption varies worldwide, depending on cultural or religious preferences, as well as economic conditions. A processed meats and meat samples served as source of diet in human body for growth of tissues and repair of damaged cells (Salman K.L., 2009) [5].

The ingestion of deteriorated processed meats and meat samples may lead to liver cancer (carcinogenic) in humans (R. Ibrahim., *et al.,* 2020).

Aim and objectives
Aim
The research is aimed at determining different species of fungi associated with processed meats commonly sold in Wunti and Muda-Lawal open market places, of Bauchi Metropolis.

Objectives
a. The determination of different species of fungi associated with processed meat samples
b. The determination of environmental parameters (such as Temperature, pH and Moisture content)

Statement of problem
Processed meats served as agent of food poisoning in both urban and rural communities. Many processed meats and meat samples were not adequately, deeply and comprehensively cooked, smoked, dried, or fried prior consumption. This is due to lack of awareness. Therefore, there is an urgent need to isolates and identify different species of fungal metabolites associated with the products.

Material and Method
Study area
The study areas included; Wunti and Muda-Lawal Open Market Places of Bauchi Metropolis, Bauchi State.

Sample collection
The total of five (5) different samples of processed meats were collected from the open market places at random inside sterile containers and consequently transported to the laboratory for analysis.

Results and Discussion

Distribution of fungal metabolites among the processed meat samples

Table 1

Products	*Aspergillus spp*	*Penicillum spp*	*Fusarium spp Mucor spp*	Products
A1	+	-	+	+
A2	-	+	+	-
A3	+	-	-	+
A4	+	+	+	-
A5	+	-	-	+
Total	04	02	03	03

Key
A1= Processed meat sample one
A2= Processed meat sample two
A3= Processed meat sample three
A4= Processed meat sample four
A5= Processed meat sample five

Environmental parameters detected among the processed meat samples

Table 2

Products	Temperature (^{0}C)	pH	Moisture Content (MC)
A1	38	6.0	22.8
A2	40	7.0	24.5
A3	39	6.8	21.88
A4	37	6.5	19.77
A5	36	6.2	18.88

Key
A1= Processed meat sample one
A2= Processed meat sample two
A3= Processed meat sample three
A4= Processed meat sample four
A5= Processed meat sample five

Discussion

The total of five (5) different fungal species were isolated and identified and these included; *Aspergillus niger*, *Aspergillus flavus*, *Fusarium verticilliodes*, *Penicillium spp*, and *Mucor spp* respectively. *Aspergillus spp* had the highest frequency of occurrence among the isolates. However, the results obtained shows that processed meat samples in the study areas can serve as agent of foodborne illness.

Conclusion

We may conclude that, processed meat samples (Suya) serve as foodborne illness when ingested.

Reference

1. Adejoye OD. Role of Domestic Animals to humans and Environment. Journal of Animal Science, 2017, 106-112
2. Cortyl L. Meats and Meat samples served as source of human diets. International Journal of Food Science 2008, 342-349
3. Ikema AI. Meat Science and Technology. A comprehensive approach. African Science, 2014, 29-65
4. Ibrahim R, Ogbonna CIC. Fungal Metabolites Isolated from Dried Meat Samples and Mycotoxins Production. International Journal of Scientific and Engineering Research, 2019, 126-131
5. Salman KL. Meats as source of diet in humans for tissue growth and development. Journal of food science, 2009, 225-229