IJFANS INTERNATIONAL JOURNAL OF FOOD AND NUTRITIONAL SCIENCES

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 11, Iss 7, July 2022

An Overview on Production of Poultry Meat in Indonesia

Kuldeep Mishra, Assistant Professor

College of Agriculture Sciences, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, India

Email id- mishraypikuldeep@gmail.com

ABSTRACT: ***Poultry meat is in high demand throughout the globe since it is an essential source of animal protein for human growth and development. Poultry meat offers a number of benefits, including enough nutrition, a delectable flavor, a relatively low price, ease of availability, and acceptance by people from all walks of life. In the age of globalization, competitive goods are required, such as chicken meat in Indonesia. The present chicken meat business is founded not only on high production capacity and low production costs, but also on the fact that chicken products are safe to consume. As a result of trade liberalization, the chicken sector confronts competition from lower-cost, higher-quality goods. The food safety of chicken meat begins on the farm and continues through the processing process until it is eaten. Food safety is a need for food items that must be addressed via collaboration between the government, industry, and consumers.***

KEYWORDS: ***Animal, Chicken, Food Safety, Meat Production, Poultry.***

1. INTRODUCTION

Poultry refers to domestic birds farmed for the following purposes: mutton (For example: chickens, turkeys, ducks, geese, guinea fowl, pigeons, ostrich, emu, partridge, pheasant, etc.) a dozen eggs (For example: chickens, ducks, ostrich, emu). Poultry goods are one of the most significant sources of low-cost protein, with white meat (poultry meat) being far less expensive than red meat (cow meat). One kilogram of animal meat costs the same as 3–4 kilograms of chicken meat. In contrast to other species, poultry production has a greater feed conversion rate, with one kilogram of chicken meat requiring between 2 and 2.5 kilograms of feed, while one kilogram of red meat necessitates more than seven kilograms of feed. Chicken production is distinguished by its high economic return owing to its short production cycle, which lasts 7–8 weeks in poultry production. The capital cycle may be repeated seven times a year in chicken production. In contrast to other animals, poultry farming requires a modest amount of space[1]–[4].

According to FAO data from 2000 to 2006, chicken meat output in developed and developing nations would grow by 2.3 and 4.0 percent per year, respectively, between 2006 and 2016. With a contribution of 43.6 percent in 2013, the United States was the leading producer of chicken meat. Asia is in second place with 33.5 percent, followed by the EU, Africa, and Oceania. Indonesia ranks fourth in Asia for chicken meat output in 2013, after China, India, and Iran. China, India, Iran, and Indonesia produced 14,279, 3,520, 1.828, and 1.566 tons of broiler meat, respectively.

Poultry farming may help to alleviate the issue of unemployment. It may indirectly create new employment by expanding businesses related to poultry production, such as feed, slaughtering, food freezing and packaging, meat conservation, and companies manufacturing poultry-related equipment and technical instruments.

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 11, Iss 7, July 2022

Figure 1: The above diagram shows the poultry meat products[5]

Poultry farming may help the state's food security plan and policy. For many years, the global amount of chicken meat production, particularly broiler meat, has been steadily increasing. Broiler meat output globally (in metric tons) from 2012 to 2016 was 83,267, 84,399, 86,555, 88,694, and 89,584, according to FAO data. Broiler meat production continues to expand in South America, South Asia, and Africa. A significant rise in the amount of chicken meat produced in certain areas may result in a regional shift in the poultry farming business. In particular, if new industrial methods for chicken farming are used, the United States may take the lead in broiler meat production and export. This is also true for European Union nations that have already depleted their land resources for raising hens for meat using traditional floor technologies. In China and India, demand for animal products has been rapidly rising in tandem with fast economic development. With such a huge population, Indonesia has lately seen rapid development and has a rapidly growing middle class. As a result, it's not unexpected that Indonesia will be the source of future animal product demand[6], [7].

1.1. Industrial Poultry Meat in Indonesia:

The low per capita consumption of meat and chicken eggs in Indonesia is an opportunity that all stakeholders in the Indonesian poultry industry can take advantage of. In Indonesia, the demand for livestock has increased during the past five years (2012-2016); the highest demand is for poultry, followed by cattle, goats, and sheep. In 2012, poultry demand hits 1.70 billion heads, rising to 2.10 billion heads in 2016.

The FAO has divided the chicken production system into four areas. These range from a large-scale commercial operation, integrated with hatcheries, feed mills, and processing plants, and utilizing sophisticated housing and equipment with traditional rearing slices, housing, and feeding of commercial broiler genotypes, to a sector 2 large-scale commercial operation, integrated with hatcheries, feed mills, and processing plants, and utilizing sophisticated housing and equipment with conventional rearing slices, housing, and feeding of commercial broiler genotypes Sector 2 systems are similar to sector 1 systems, except they are typically smaller and less connected with other poultry operations. Sector 3 production units are modest commercial facilities with a capacity of 100 to 500 commercial broilers. Sector 4 is mainly made up of relatively tiny flocks of 10 to 50 indigenous breeds from other nations' populations. In Indonesia, limited resources and money are the most significant considerations.

ISSN PRINT 2319 1775 Online 2320 7876
Research paper UGC CARE Listed (Group -I) Journal Volume 11, Iss 7, July 2022

Poultry-free poultry businesses with greater production costs are more likely to have lower production costs, although sickness instances are common. In Indonesia, the major issue with biosecurity application is the lack of qualified human resources, which causes inconvenient and complex biosecurity routines. Several cases of bird flu / avian influenza (HPAI) were reported in Asia, Africa, Europe, Russia, and the United States during the 2016/2017 epidemic. Despite these epidemics limiting growth, worldwide broiler meat output is expected to increase 1% to 89.5 million tons in 2017.

Domestic supply will be impacted by transportation limitations in quarantine zones and a decrease in parental stock due to depopulation. Imports are expected to increase by 13% to 145,000 tons. Japan is expected to maintain its position as the world's top importer in 2017, with 960,000 tons. With 825,000 tons of broiler meat imported, Mexico will remain the world's second biggest importer. Both nations utilize regionalization to limit exports from HPAI-affected trade partners, which has an effect on imports from Japan and Mexico. To prevent disease out outbreaks and guarantee excellent performance conditions, a solid biosecurity and hygiene concept should be developed, according to the report.

Because Indonesia has the world's biggest Muslim population, a halal assurance system is needed to satisfy the demands of customers. In addition to halal certification, chicken meat must also meet the government's security standards, which include being safe, healthy, halal, and intact. The government establishes a policy of developing and enforcing rules that govern the process of buying halal poultry meat via a chicken mortgage guarantee scheme. The BPOM and MUI are the regulating bodies, and the objective is chicken sellers in traditional markets and contemporary stores. To guarantee the quality of the meat, the entrepreneur checks the process and administration directly with the chicken slaughterhouse to confirm that the chicken slaughterhouse has received halal certification and passed a halal test from the Indonesian Ministry of Agriculture.

1.2. Safety Hazards of Poultry Meat:

Food safety is a worldwide problem that requires a coordinated global solution. The food chain approval is a complicated agricultural procedure that includes poultry, harvesting, shipping, slaughtering, packaging, selling, and consumption. There are three types of risks that may infect chicken meat: Toxic chemicals, dangerous amounts of cleaning and sanitizing chemicals are examples of chemical risks, whereas bacteria, viruses, fungus, and parasites are examples of biological dangers. At the farm and throughout processing, there are risks associated with poultry meat. In Indonesia, about 70-80 percent of poultry meat is produced using a modern management system, while the rest is still produced using the traditional system. However, because 70-80 percent of poultry meat is marketed using the traditional system rather than slaughterhouses, contamination in the production process is common.

1.3. Poultry Industry for Food Safety:

Poultry meat must be held to the same food safety standards as other meats. Good food safety procedures will reduce the risk of contamination and remove the effects of contamination that has already happened across the chicken meat production chain, from farm to table. Because the slaughtering system is such an important control point in the poultry business, every investment must be supported by the creation and management of a slaughterhouse. The following controls are used to ensure the quality of chicken meat: storage space temperature

ISSN PRINT 2319 1775 Online 2320 7876
Research paper UGC CARE Listed (Group -I) Journal Volume 11, Iss 7, July 2022

(2-4oC), meat color, meat flexibility, odor, and meat size or weight as specified. Each store must include an expired information label and treatment while the product is on display to ensure consumer satisfaction with quality chicken products.

Poultry is an easily damaged animal meal that has the potential to transmit illness to humans; one way to avoid this is to reduce the sanitary and cold chain system. The chicken meat may be kept at room temperature for four hours after cutting before being chilled to prevent bacterial infection. The Ministry of Agriculture is now promoting the use of fresh chicken products to ensure community food security.

The price of live chickens and chicken meat is extremely volatile in Indonesian poultry culture, therefore one of the attempts to regulate the price is to try to go out of the country. Export of chicken meat to Japan is done in the form of processed meat that has been heated to 70°C for one minute. This is done since Indonesia has not yet been declared clear of bird flu, thus frozen meat products cannot be exported.

2. LITERATURE REVIEW

H. Windhorst discussed about Dynamics and patterns of global poultry-meat production[8]. The growth of worldwide poultry-meat production between 1994 and 2014 is the subject of this introductory chapter. First, a continent-by-continent overview is provided. Following that, based on the new idea of national development groups, the existing pattern of poultry-meat production is detailed. Least-developed nations, less-developed countries, newly industrialized or threshold countries, and old industrialized countries are the four categories of countries. The worldwide population and global poultry-meat production share of each category are compared, and the top ten nations in each group are determined. Then, on a continent-by-continent basis, an overview of the major poultry-meat businesses is given. The biggest chicken meat-producing businesses may be found in North and South America, as well as Eastern and South-East Asia. Several of these businesses are global conglomerates that are typically vertically integrated and engaged throughout the whole animal protein value chain. On a continent and nation level, a forecast of the growth of poultry-meat production through 2024 provides an overview of production, consumption, per capita consumption, and the balance between production and consumption in 2024. A final viewpoint addresses the poultry-meat industry's future difficulties in terms of sustainability, societal acceptability of intensive animal production, and the danger of the introduction and spread of highly contagious chicken illnesses.

M. Baracho et al. discussed a review on Variables impacting poultry meat quality[9]. The quality of poultry meat has been extensively researched, and it has become a rising demand on the worldwide market. Meat quality is influenced by a variety of factors that occur during the manufacturing process. The exporting industries' continuous concern for meat quality is a reaction to customer expectations, and it is accomplished by improving efficiency and investing in quality staff training. Understanding where key spots are in the chicken meat production chain and investing in resolving them may lead to improved control and management, and therefore a decrease in losses. Production and management methods, from farm to processing plant, have a significant influence in meat quality, and the application of technology to minimize risk factors along the production chain will enable the production of higher-quality chicken meat for both export and local markets. The major variables that affect the quality of chicken meat across the production chain are described in this review.

ISSN PRINT 2319 1775 Online 2320 7876

Research paper UGC CARE Listed (Group -I) Journal Volume 11, Iss 7, July 2022

John Cassius Moreki discussed about Poultry meat production[10]. Botswana's poultry meat (mostly chicken) output has exploded in recent years (i.e., 1982 to 2010). This expansion is due, among other things, to government support such as the Financial Assistance Policy (FAP) and import limitations imposed under the Control of Goods Act. The demand for chicken meat in the nation is projected to reach 60 000 tonnes. To guarantee the wholesomeness of the goods, the chicken meat industry's development necessitates the adoption of rigorous hygienic standards by processing facilities. However, frequent disease outbreaks and insufficient extension service have hindered the industry's development. Only 28 poultry abattoirs are now registered with the Department of Veterinary Services, allowing them to get technical assistance from government meat inspectors. This suggests that unregistered abattoirs have poor cleanliness, implying that food safety has been ignored for a long period. Further processing of chicken flesh into different products is possible.

Mehtabuddin et al. discussed about commercial poultry meat and eggs[11]. The goal of the study was to find out how much sulfonamides were left in poultry meat and eggs. This medication is often used in chicken, and residues found in meat and eggs are thought to be harmful to human health. To identify sulfonamide residues, a total of 30 egg samples, each consisting of three eggs, and 30 breast meat samples were obtained at random from sale points at various locations and poultry farms in Rawalpindi/Islamabad. Until the time of analysis, these egg and meat samples were kept at 4°C and -20°C, respectively. Sulfonamides were extracted from eggs using a liquid-liquid extraction technique using acetonitrile and n-hexane, with acetonitrile also being used for meat samples, followed by clean-up with solid phase extraction columns (C18). Sulfonamide residues were detected using a high performance liquid chromatography (HPLC) system with a UV detector set at 265 nm, a C 18 column (25 cm0.46, 5 m) under isocratic conditions, and a mobile phase of 0.01 M potassium dihydrogen phosphate (KH 2PO 4) buffer and methanol (70:30 v/v) at a flow rate of 1 ml/min. For beef and eggs, the limit of detection (LOD) was 0.02 g/g and 0.025 g/ml, respectively. Sulfonamide residues were detected in 43 percent of meat and 30 percent of egg samples, while 23 percent of meat and 10 percent of egg samples surpassed the prescribed maximum residual level and were unsuitable for human consumption. Because of the widespread use of sulfonamides in commercial broilers and layers without following the drug's withdrawal time, the study found sulfonamide residues in chicken meat and eggs.

3. DISCUSSION

Domesticated birds maintained by humans for their eggs, meat, or feathers are known as poultry. The superorder Galloanserae (fowl), particularly the order Galliformes (which contains chickens, quails, and turkeys), is most often represented by these birds. The word also refers to birds slaughtered for their flesh, such as pigeons' young (known as squabs), but not to comparable wild birds hunted for fun or sustenance, which are referred to as game. The term "poultry" is derived from the French/Norman word poule, which derives from the Latin word pullus, which meaning "little animal." Poultry, often known as white meat, consists of chicken and turkey, whereas seafood consists of fish, crustaceans such as crab and lobster, and mollusks such as clams, oysters, scallops, and mussels.

4. CONCLUSION

Domesticated birds maintained by humans for their eggs, meat, or feathers are known as poultry. Poultry refers to domestic birds farmed for the following purposes: mutton (For

ISSN PRINT 2319 1775 Online 2320 7876
Research paper UGC CARE Listed (Group -I) Journal Volume 11, Iss 7, July 2022

example: chickens, turkeys, ducks, geese, guinea fowl, pigeons, ostrich, emu, partridge, pheasant, etc.) a dozen eggs. Poultry goods are one of the most significant sources of low-cost protein, with white meat (poultry meat) being far less expensive than red meat (cow meat). The healthy intake of chicken meat is important to one's health and well-being. Food safety risks in chicken meat products are reduced by growing, collecting, transporting, and managing birds. In recent years, there has been increasing discussion about enhancing product control and traceability. Because the market is becoming increasingly global and evolving at a rapid rate, we must be united, responsive, flexible, and willing to change tradition should be interpreted and constantly develop new techniques that will improve both poultry health and welfare and poultry meat safety for consumers in order to stay in it.

REFERENCES:

[1] M. Petracci and C. Cavani, "Muscle growth and poultry meat quality issues," *Nutrients*. 2012, doi: 10.3390/nu4010001.

[2] S. G. Khokhar, Q. Min, and C. Su, "Bird flu (H7N9) outbreak and its implications on the supply chain of poultry meat in China," *J. Appl. Poult. Res.*, 2015, doi: 10.3382/japr/pfv007.

[3] C. P. A. Skarp, M. L. Hänninen, and H. I. K. Rautelin, "Campylobacteriosis: The role of poultry meat," *Clinical Microbiology and Infection*. 2016, doi: 10.1016/j.cmi.2015.11.019.

[4] S. M. Tan, H. L. de Kock, G. A. Dykes, R. Coorey, and E. M. Buys, "Enhancement of poultry meat: Trends, nutritional profile, legislation and challenges," *South African J. Anim. Sci.*, 2018, doi: 10.4314/sajas.v48i2.1.

[5] "Poultry." https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.provisioneronline.com%2Farticles%2F107187-meat-and-poultry-industry-economic-outlook-a-mixed-bag&psig=AOvVaw1tQO5fKRzBifSqN81rbqKk&ust=1632217502835000&source=images&cd=vfe&ved=0CAsQjRxqFwoTCJimyomjjfM (accessed Aug. 01, 2017).

[6] W. Hemmer, C. Klug, and I. Swoboda, "Update on the bird-egg syndrome and genuine poultry meat allergy," *Allergo Journal International*. 2016, doi: 10.1007/s40629-016-0108-2.

[7] A. C. C. S. Pinto *et al.*, "Injuries of repetitive efforts in workers from the poultry meat industry: A bibliometric analysis of literature," *Sustainability (Switzerland)*. 2018, doi: 10.3390/su10010250.

[8] H. W. Windhorst, "Dynamics and patterns of global poultry-meat production," in *Poultry Quality Evaluation: Quality Attributes and Consumer Values*, 2017.

[9] M. S. Baracho *et al.*, "Variables impacting poultry meat quality from production to pre-slaughter: A review," *Revista Brasileira de Ciencia Avicola*. 2006, doi: 10.1590/S1516-635X2006000400001.

[10] J. C. Moreki, "Poultry meat production in Botswana," *Livest. Res. Rural Dev.*, 2011.

[11] Mehtabuddin, A. A. Mian, T. Ahmad, S. Nadeem, Z. I. Tanveer, and J. Arshad, "Sulfonamide residues determination in commercial poultry meat and eggs," *J. Anim. Plant Sci.*, 2012.