

CHANGING CONSUMER PREFERENCES TOWARDS POULTRY PRODUCTS (EGGS AND MEAT) IN THE PERIOD 2019-2024 IN ROMANIA

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Abstract

The Covid-19 pandemic has led to significant changes in many areas of activity, and food has suffered in terms of quantity, quality, price and logistics. The article focused on the livestock population, generated by the relocation of the population to the rural area and the self-production of some of the food, as well as the quality of poultry products in Romania (chicken meat and eggs). According to the Romanian Institute of Statistics, the number of chickens sharply decreased in 2020, by 5.55% compared to 2019, only to suddenly increase by about 10% in 2021-2023, and afterwards it remained constant. For Romania, the number of egg-laying birds is what makes the difference, being directly proportionally correlated with egg consumption per capita. By comparing the statistical data to the responses received in a questionnaire-based survey from 877 inhabitants throughout Romania, it can be stated that the rapid recovery of the poultry sector was due to the population's agri-food changes and their decision to produce part of their own food.

Key words: consumer preference, poultry, eggs, meat, quality, Covid-19 pandemic, Romania

INTRODUCTION

According to a study conducted by Abouzid et al. (2021) [1] on 5,896 residents from 17 countries in the MENA region (including countries from Middle East and North Africa), the behaviour of the population, strongly related with the emergency state imposed by the Covid-19 pandemic, has radically changed. Parameters like logistics, cost of production and food quality influenced the entire economy, which also have had a great impact on final prices, both internationally [19, 22] and nationally [5, 18, 21].

Several studies from different parts of the world [6, 8, 9, 11, 12, 13] indicate that eating habits have begun to focus on egg consumption, while other products, more perishable and harder to procure, have been consumed less. Giving the fact that the attention for health has been in the attention of every human being, for the entire European Union and Romania it is estimated that the number of organic egg production will continue to increase until 2030 [7]. The same trend is expected for chicken meat production

in Romania, until 2033 [10], but also worldwide [25].

According to data presented by Pirvutoiu & Popescu [17] and Buliga-Stefanescu & Radoi (2021) [4], from 1990 to 2019 the number of hens raised by the individual owners, in their households, was in a downward trend, which was different after the start of the pandemic. Meanwhile, during 2007-2019 the amount of chicken meat produced increased, while the number of eggs decreased.

With the year 2020 and the relocation of part of the Romanian population, through the migration phenomenon from cities to villages [16], the livestock population has increased, as has the production of eggs and chicken meat on its own. The number of animals raised in households is difficult to monitor accurately at the national level, as stated by Serban et al. (2015) [23].

Over the years, eggs have been the subject of much research, with various themes, being appreciated as one of the most complex agri-food products [8, 11, 18].

For example, following numerous discussions on how to raise birds in different housing options, eggs have been evaluated for

radioactive contamination with cesium, respectively with the isotopes 134 and 137 [2], and it has been noticed that the maximum values weren't exceeded in any of the breeding systems of laying hens. In the same time, in recent years, it has been necessary to adopt modern technologies in animal husbandry [20], which will lead to a decrease in CO₂ emissions and be environmentally friendly [3, 18]. Another problem is that of the waste generated by this industry and how it can be transformed into by-products, in order to reduce pollution [24]. The aim of this article is to explain some of the changes that were generated by the Covid-19 pandemic, in direct connection with the agri-food habits of the population and the quality of poultry products (meat and eggs). It is also of interest to clarify the way of obtaining poultry products – in an institutionalized system or on an individual basis, for the years 2019-2024.

MATERIALS AND METHODS

For presenting conclusive and concrete findings, which are about to correspond to the aim of this article, the data found in the network Tempo-Online of the Romania's National Institute of Statistics (NIS) were used. For data analysis, the parameter which follows the number of raised chickens was chosen, considering two branches:

- (1) chickens for meat;
- (2) egg-laying hens.

The number of chicken eggs per capita, that were produced in Romania is another indicator considered important, being correlated with the number of chickens. The data for the years 2019-2023 were processed in Excel, in tabular and graphical form. Regarding the quality of products preferred by consumers, the

questionnaire method was preferred. The questions analysed are part of a larger analysis, with 47 questions, but for this paper only three of them were considered relevant, namely:

- (1) Do you consider that there have been changes in your family's consumption of poultry products (chicken meat and eggs) during the pandemic and post-pandemic period (2020-2024)?
- (2) Have you started producing your own food or have you changed the source of the poultry products you consume?
- (3) In 2020-2024, compared to the pre-pandemic period, have you given a greater importance to the nutrition and quality of the poultry products you consumed?

The questionnaire from which the above questions were extracted was uploaded in Google Forms format and sent to a target group of 1200 respondents, between January 2022 and December 2024. The final number of respondents was 877 people, which were analysed in tabular and graphical form in Excel.

RESULTS AND DISCUSSIONS

The indicators extracted from the statistics compiled at the national level have extremely variable figures from one year to another, as it can be observed in Table 1. Comparing with the control version, namely the year 2019, it can be concluded that the total number of birds increases in the years 2021-2023, after a very significant decrease in 2020, the year of the beginning of the pandemic. The number of birds for meat remains relatively constant during the studied period, in 2023 being lower than in 2019, which indicates the first of the changes in population consumption.

Table 1. Analysis indicators for the poultry population in Romania, in the years 2019-2023

Indicator	The unit of measure	Year				
		2019	2020	2021	2022	2023
Total hens, of which:	heads	75,364,575	71,183,431	77,148,372	78,220,737	77,749,597
Chickens for meat		34,636,147	34,534,953	35,110,424	36,337,266	33,647,416
Egg-laying hens		40,728,428	36,648,478	42,037,948	41,883,471	44,102,181
Egg production/capita	pieces/capita	287	282	310	315	308

Source: own processing based on NIS data, 2019-2023 [14, 15].

The difference in the number of poultry in 2020 compared to 2019 (a decrease by 5.55%) is due to the sudden decrease in the number of laying birds. This is correlated with the per capita egg production, which decreases from 287 to 282 pieces/capita.

For the years 2021-2022, the increasing trend of average egg consumption among Romanian residents can be noted. The maximum is reached in 2022, even if it doesn't correlate

with the number of laying hens, as happens in other years (Fig. 1). This parameter stabilizes around 308-310 eggs consumed annually by each inhabitant, indicating the population's preference for products that they can produce themselves, raising chickens in their own household, or can purchase from neighbours and/or acquaintances, knowing their provenance and having more confidence in consuming them.

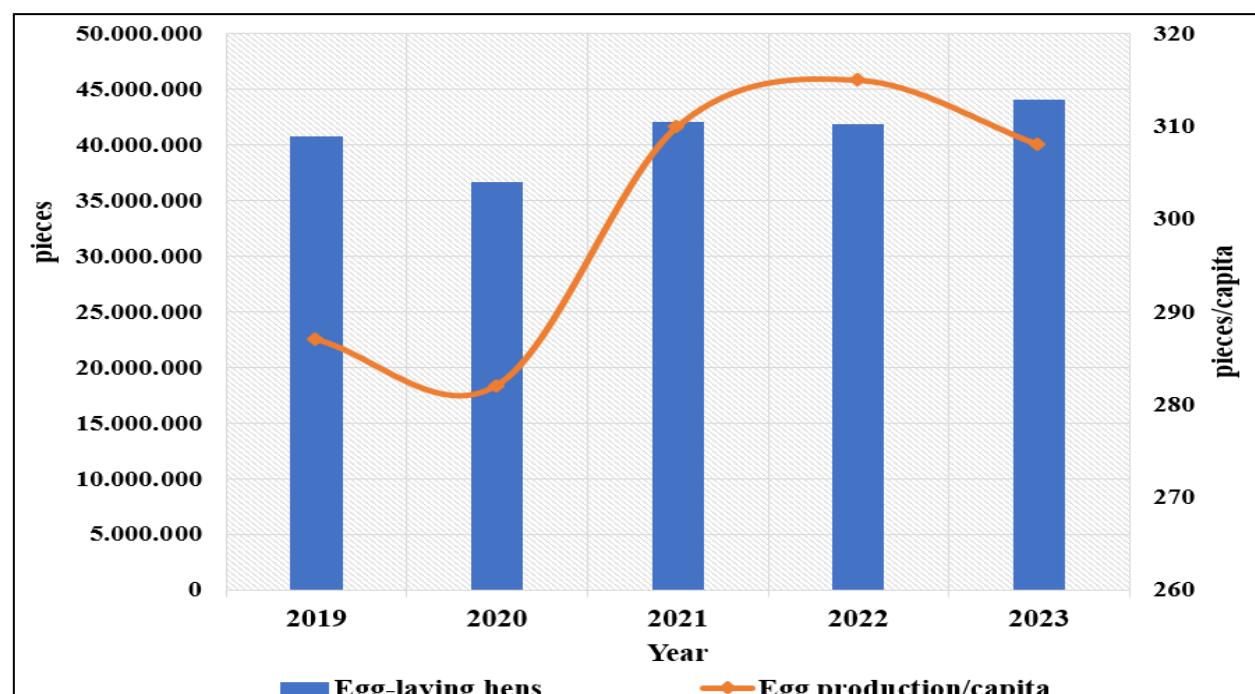


Fig.1. Correlation between the evolution of the number of laying birds and per capita egg consumption in 2019-2023
Source: Original graphic based on NIS data [14, 15].

In summary, what stands out is the sudden rebound in the number of laying birds starting in 2021 – an increase of 14.7%, compared to the year the pandemic began (2020). The trend is maintained, with minimal fluctuations, in 2022, so that in 2023 there will be a new significant increase. The only logical explanation is due to the increasing number of households that have started raising chickens, initially for egg production, and then for meat (in the case of roosters and hens that have reached maturity and are replaced by young laying birds).

Certainly, each of the inhabitants of Romania prefers to eat something produced in their own household, and poultry products are part of the

category of those that can be obtained without special efforts, along with some vegetables and fruits.

In support of these theories comes the questionnaire addressed to a part of the population, with the aim of finding out how they manage to ensure a good quality and safety of life, through the lens of agri-food products, in this case poultry products (chicken meat and eggs). Since the study period overlaps with that of the pandemic, some of the questions are oriented towards this specific topic.

For the research contained in this article, the responses received from the 877 respondents, in the years 2022-2024, are detailed in Table 2.

Table 2. Number of responses and their percentage received from 877 residents of Romania, for three questions regarding their nutritional habits as a consequence of Covid-19

No. crt.	Questions in the questionnaire	Answer options				
		To a very large extent	To a large extent	Relatively	To a small extent	Not at all
1.	Do you consider that there have been changes in your family's consumption of poultry products (chicken meat and eggs) during the pandemic and post-pandemic period (2020-2024)?	317 (36.15%)	134 (15.28%)	283 (32.27%)	110 (12.54%)	33 (3.76%)
2.	Have you started producing your own food or have you changed the source of the poultry products you consume?	421 (48.00%)	178 (20.30%)	101 (11.52%)	85 (9.69%)	92 (10.49%)
3.	In 2020-2024, compared to the pre-pandemic period, have you given a greater importance to the nutrition and quality of the poultry products you consumed?	555 (63.28%)	59 (6.73%)	163 (18.59%)	48 (5.47%)	52 (5.93%)
Total answers		1,293	371	547	243	177

Source: original data.

Putting all these answers together, we see a small number of those who say they have changed their eating habits little or not at all – to be exact, only 15.2% of people. The difference, namely 84.8%, are those who have made changes from moderate to significant, generated by relocation to the rural area, working from home and the possibility of dedicating more time to the culinary sector.

These aspects also emerge from the structure of the answers to the three selected questions (Fig. 2), which suggest that people also felt the imposed changes through the prism of agri-food habits, which suffered and led to radical

decisions regarding their lifestyle, which they chose to adapt to the new living conditions.

In fact, considering that based on these three questions, the majority of the answer options indicated drastic changes shows that the inhabitants of Romania took advantage of this new state of affairs to ensure a better, healthier and more sustainable life.

Question 1 has the most balanced structure of answers, indicating differences between respondents. However, only 33 people (3.76%) stated that they haven't changed anything related to the consumption of poultry products.

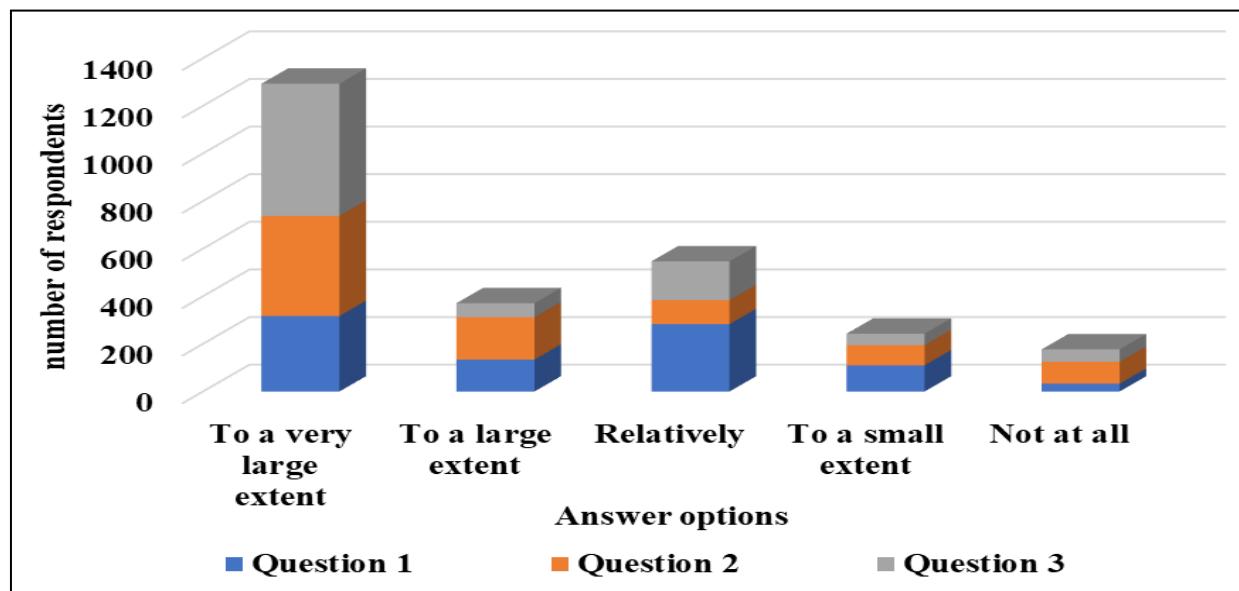


Fig. 2. Graphical representation of the answers received from the 877 respondents to the three questions, within the questionnaire during the period 2022-2024

Source: Original graph based on the respondents' answers.

Question 2 highlights that over 60% of the people interviewed have taken drastic measures regarding poultry products, which they either raise personally or buy from known sources, while Question 3 has the most concrete result – 555 of those interviewed (63.28%) are sure that they have done everything possible to purchase and consume poultry products of the best quality, unlike the pre-pandemic period.

CONCLUSIONS

By using the two research methods – evaluating statistical data and processing responses received in a questionnaire survey, it is possible to confirm the change in consumer perception regarding agri-food products during the pandemic and post-pandemic period (2020-2024).

The increase in the number of laying birds, correlated with the increasing consumption of eggs, can be inferred from people's preference for this miracle food, which they can easily produce in their own household. On the other hand, the decreasing number of birds for meat indicates a decrease in demand.

The three questions extracted from the questionnaire regarding the quality and food safety of the population revealed that the pandemic meant a reconfiguration of life for over 60% of those interviewed - in this case, through the change in eating habits and the way they produce or procure their poultry products. However, the limitation of the study comes from three directions:

- it isn't possible to perform a highly accurate count of the poultry population in individual households;
- there is no clear classification of quality classes of poultry products (chicken meat and eggs), depending on the breeding and nutrition system;
- the impossibility of obtaining a higher number of responses to the questionnaire, for it to have statistical significance.

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