

Pastures' Poultry: A regenerative agricultural measure

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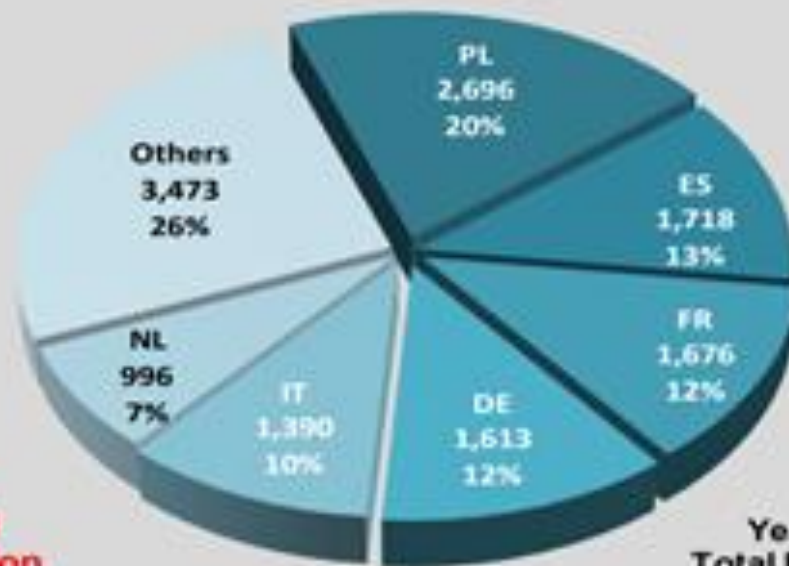
U.E. rules which poultry producers must comply with are:

food safety

bird comfort

environment protection

EU* Main Poultry Producers
(1000 Tonnes product weight)



**6 MS =
74% of total
EU production**

**Year 2020
Total EU = 13 562
(+ 1.0% over 2019)**

Source: Eurostat

* EU without UK

European Commission Regulation no. 543/2008 refers to the rearing of broilers in the **traditional system**, with the following variants:

- **broilers raised *extensive indoor (barn-reared)***, on the ground, in an extensive system (maximum 15 heads/sqm, 25 kg weight /sqm and slaughter at 56 days)
- **broilers raised in traditional free-range** (maximum 25 kg live weight / sqm, maximum 12 heads / sqm, 2 sqm / head access to paddock, continuous daytime access to open-air runs at least as from the age of six weeks, 70% of cereal food and slaughter at 81 days)
- **broilers raised in free-range system** (maximum 13 heads/sqm, 27,5 kg weight / sqm, 2 sqm / head access to paddock, 70% of cereal feed and slaughter at 56 days)
- **broilers raised in free range — total freedom** (maximum 25 kg live weight / sqm, maximum 12 heads / sqm, the birds shall have continuous daytime access to open-air runs of unlimited area, 70% of cereal food and slaughter at 81 days).

Poultry production in Romania

In 2019, Romania was the European Union's (EU) eighth-largest poultry producer.

In terms of structure, Romania's largest chicken meat producers are vertically integrated, from hatching to feeding, slaughtering, meat processing, and distribution.

This level of integration allows them to control production costs, increase efficiencies, and adapt to new market conditions.

- The chicken production has improved efficiencies over the past decade according to the **Romanian Poultry Producers Association (RPPA)**.
- The average daily weight gain rose from 53 grams in 2011 to **55-56 grams in 2019**, while
- average feed consumption declined from **1.88 kg feed/kg** of meat in 2011 to **1.62 kg feed/kg of meat in 2019**.

Rearing and exploitation of broilers in Romania in an intensive system

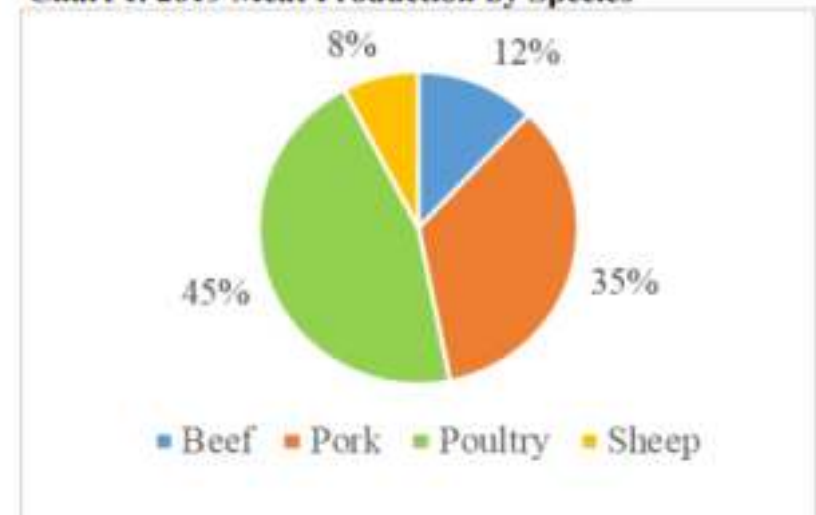
In Romania are reared approx. 35,195,754 birds (46.5% of the national poultry sector) in intensive system, of which:

- 8,889,315 heads are laying hens

- 26,306,439 heads are broilers.

- Poultry companies continue to invest in production and processing technology, logistics, and branding.

Chart 1. 2019 Meat Production by Species



Sources: Dobrescu Monica, 2020

Rearing and exploitation of broilers in Romania in an extensive (traditional) system

The total number of birds raised in Romania in the traditional (extensive) system is 40,451,872 heads, (approx. 53.4% of the entire poultry population), of which:

27,086,864 heads are laying hens,

13,365,008 are broilers.

- In Romania there are approx. **800,000 households** registered to the the National Sanitary Veterinary and Food Safety Agency, with a seasonal increase, and production generally reaches its own consumption.

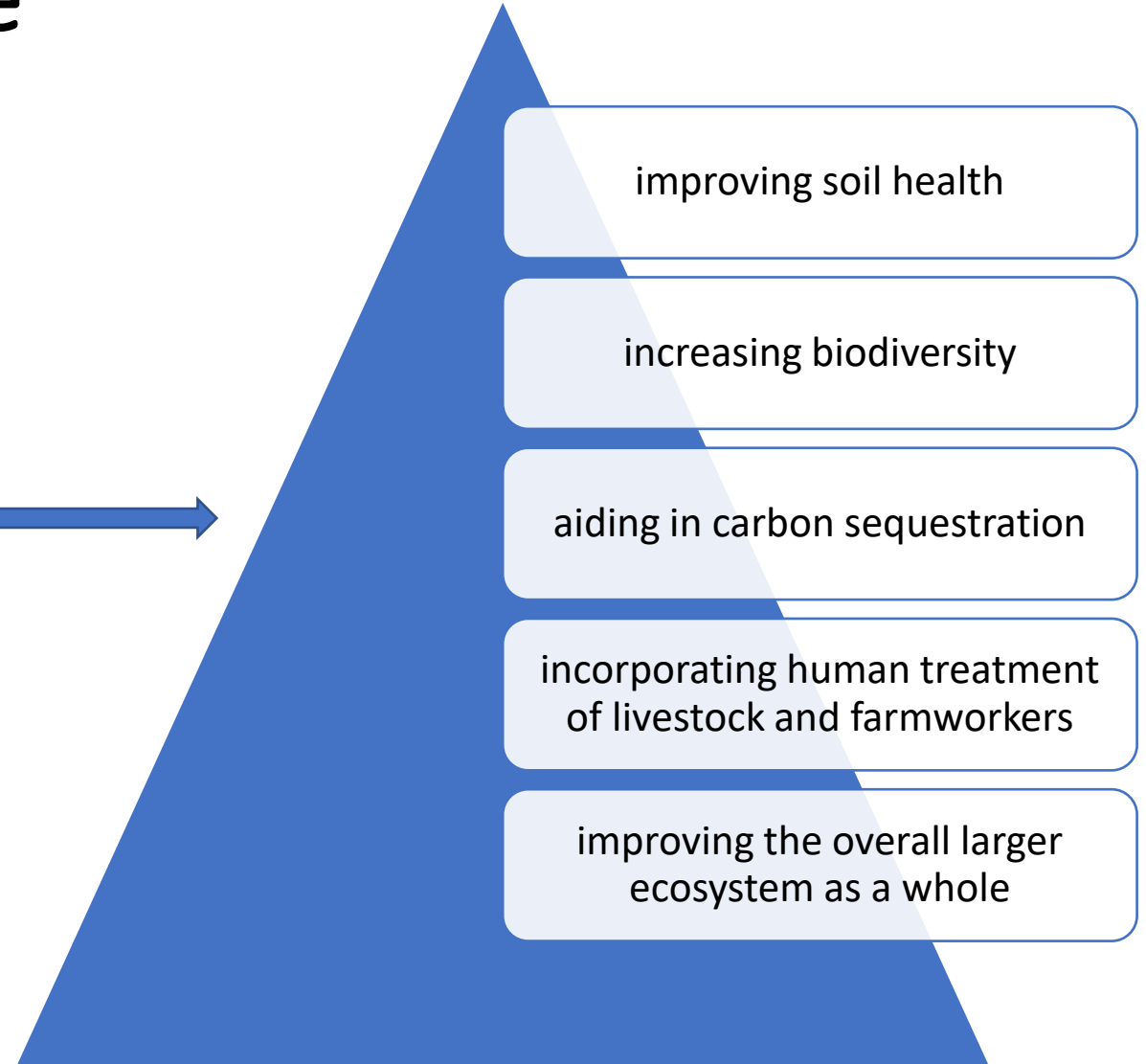


Regenerative agriculture practices are practices that:

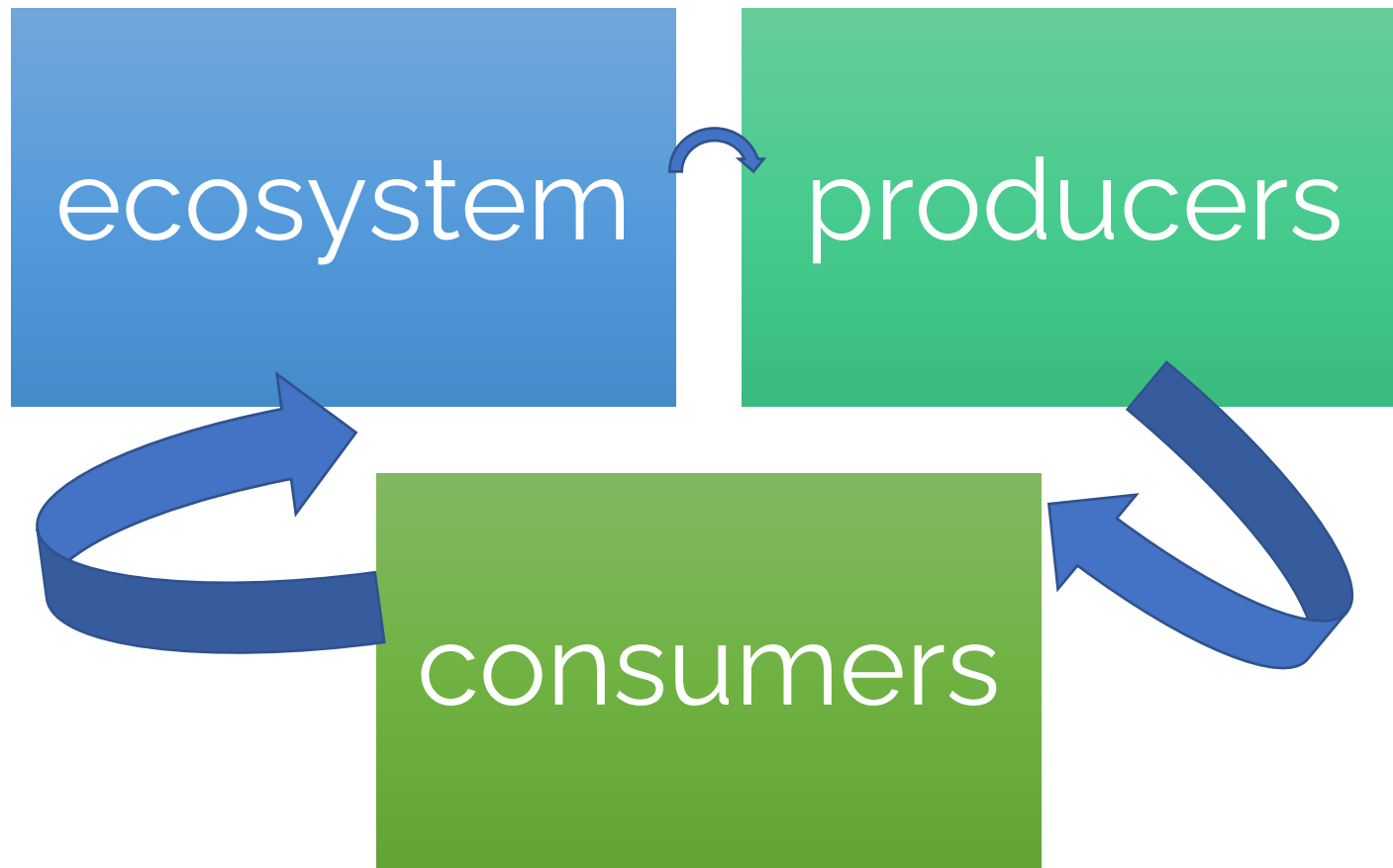
- (i) contribute to generating/building soils and soil fertility and health;
- (ii) increase water percolation, water retention, and clean and safe water runoff;
- (iii) increase biodiversity and ecosystem health and resiliency;
- (iv) invert the carbon emissions of our current agriculture to one of remarkably significant carbon sequestration thereby cleansing the atmosphere of legacy levels of CO₂.

Regenerative agriculture

- **Five main principles:**



Pastured poultry's like a major of regenerative agriculture's methods can offer many benefits to the:



The main promoters of raising broilers on pasture are:



Joel Salatin from Polyface Farm, USA



Richard Perkins in Sweden

Pastured poultry system is:

- a highly innovative and emergent practice (Hilimire K.)
- alternative agricultural practices
- a more sustainable alternative to conventional broiler production
- improving pasture quality, reduction in the amount of grain needed as feed, and recycling of nutrients





Pastured poultry system- effect on bird's:

- promote animal well-being by allowing birds to express natural behaviors
- may provide a more nutritionally complete and higher valued product depending on the pasture contents



Pastured poultry system - effect on local communities:

- can be a positive impact on rural, and even urban, communities.
- provide economic benefit to small scale pastured poultry operations.
- “environmentally friendly” perception of pastured poultry farming.

Summer Field School [Online] on MOUNTAIN ECOSYSTEMS AND RESOURCE MANAGEMENT, Ivano-Frankivsk Region, Ukraine: 19-28 September, 2021

Raising broilers in your own household in 2021

- ROSS 308 broilers are raised in mobile shelters from the age of 21 days until slaughter.
- The mobile shelters are moved daily on fresh alfalfa.
- Birds have access to fresh grass, fresh air, insects. They can manifest their natural behavior.
- This year we raised 3 series of 100 chicken heads. The chicks were slaughtered between 63 and 70 days, and the average carcass weight was 2.9 kg.
- The feeding was done with combined fodder until the age of 28 days. Between 29 days and 50 days, combined feed and corn were administered in a ratio of 1 to 1.
- From the age of 50 days until slaughter, the chicks were fed exclusively with corn.

Raising broilers in your own household in 2021

We raise 30 chickens in a mobile shelter of 4.8 sqm, which leads to 23 kg live weight / sqm.

Raising grazing broilers in mobile shelters is economically profitable. The production cost of a chicken reaches approx. 26 lei / head (5.2 euros), and the one for sale at 65 lei / head (13 euros).



Conclusions

We consider that pastured poultry production it is a highly innovative and emergent practice developed in many countries, but which it is missing in Romania.

- This growth system can be extended and promoted in Romania. It allows to obtain good quality products with low costs.
- Such a product could be registered as a mountain product quality scheme.
- Studies are needed on the rearing of broilers in this system.

References

- 1) Elkhoraihi C. , Pitesky M., Dailey N., Niemeier D., (2017) Operational challenges and opportunities in pastured poultry operations in the United States, Poultry Science, Volume 96, Issue 6, Pages 1648-1650, <https://doi.org/10.3382/ps/pew448>, <https://www.sciencedirect.com/science/article/pii/S0032579119313483>
- 2) Dobrescu Monica, (2020), Report Name: Challenging Prospects for Romania's Poultry Industry, RO2020-0031,
- 3) Harvey Morgen and LaFontaine Claire, (2021), What is regenerative agriculture?, Accessed on 7 september 2021, <https://sustainableamerica.org/blog/what-is-regenerative-agriculture/>
- 4) Hilimire, K. (2012), The grass is greener: Farmers' experiences with pastured poultry. *Renewable Agriculture and Food Systems*, 27(3), 173-179. doi:10.1017/S1742170511000287, accessed on 10 september 2021
- 5) Regenerative Agriculture Initiative, California State University, The Carbon Underground, Chico, (2017), What is Regenerative Agriculture? <http://www.csuchico.edu/sustainablefuture/aginitiative/> and <https://thecarbonunderground.org/>
- 6) Rothrock Michael J., Gibson Kristen E., Micciche Andrew C., Ricke Steven C., (2019), Pastured Poultry Production in the United States: Strategies to Balance System Sustainability and Environmental Impact, *Frontiers in Sustainable Food Systems*, volume 3, DOI=10.3389/fsufs.2019.00074 , accessed on 10 september 2021
- 7) <http://www.avicultura.ro/>
- 8) https://ec.europa.eu/info/sites/default/files/food-farming-fisheries/farming/documents/poultry-meat-dashboard_en.pdf