

STUDY REGARDING THE DIFFERENT REARING SYSTEMS FOR PHEASANT

Marius GHETA, Marius MAFTEI, Iuliana BORDEI, Carmen Georgeta NICOLAE

University of Agronomic Sciences and Veterinary Medicine of Bucharest, 59 Marasti Blvd, District
1, Bucharest, Romania

Corresponding author email: mariusmaftei@gmail.com

Abstract

This study is a part of an ample research regarding the pheasant exploitation systems. In Romania, the main game, for a long period, it was the hare. In the last decade the hare population has recorded a significant decreasing. In these conditions, the hunters will increase the pressure on pheasants. It is now very important, from economically point of view but not only, to produce more pheasants. Because of the Romanian politics regarding the protection of predatory game, an important increasing of pheasant population, in wild conditions, it is impossible. The pheasant farms from Romania were established between 1970 and 1980. The main purpose of these farms was to produce pheasant meat for export, and only secondary to produce individuals for population of hunting areas. More than that, the individuals obtained are less resistant, becoming an easy prey for predators. In these conditions, the knowledge of the other functional models from the western states and not only has a special importance. The literature cites record harvests of 10,000 pheasants annually on a plot of approximately 17,000 acres (approximately 6,883 ha).

Key words: farm, hunt, pheasant, predators, wild game.

INTRODUCTION

Globally, the pheasant was the most widespread and best-known bird of hunting interest in the world. Imported from Asia, the home of the pheasant, it developed explosively where it had a favourable environment. Colonisations have taken place in over 50 countries on all continents, except Antarctica, since antiquity, due to the sporting – hunting qualities but also due to the meat quality, adaptability, growth rate, etc. Pheasants have arrived in Europe since the time of the Roman Empire, multiplying in the wild, in England, since the 15th century. In countries like France or Italy they were raised as domestic birds.

In the new world, pheasants arrive relatively late, with evidence of pheasant populations dating back to 1730, the first success being recorded in 1882 (Hill and Robertson, 1988).

Not to be overlooked is the fact that colonization with this species is mentioned in Greek mythology, legend has it that around the 13th century BC, Argonauts looking for Golden Wool brought pheasants to Greece from the Colchis region of the Caucasus (now Georgia). exactly from the valley of the river Phasis, hence the name – *Phasianus cochicus*. Leaving aside

these historical aspects, we must mention that this species maintains its leading place in the preferences of hunters for the same reasons: survival skills and quality and quantity of meat (Castiov, 2010).

MATERIALS AND METHODS

The present paper is a bibliographic study of the captive rearing systems of the pheasant, but also of the methods, of the efficient models for populate. It was taken into account the systems applied in Romania, in other European countries, and not also on the American continent. We must point out that the growth of the pheasant in captivity, but also its exploitation and capitalization is more difficult and demanding compared to domestic birds, due to the wild nature of the species.

RESULTS AND DISCUSSIONS

Two main pheasant breeding systems have been developed worldwide: an intensive system and a semi-intensive system. From these two systems derived in time a third, a semi-extensive system that developed rapidly in Europe but not only. Unfortunately, pheasant rearing technology has

not modernized as it has with the poultry industry.

In Romania, the semi-intensive system has a history of almost a century, if not better. It is also known as the semi-natural pheasant rearing system using hens.

Incubation and hatching of pheasant eggs is done in this system, naturally, using domestic hens. Eggs incubated and hatched come from pheasant farms or are harvested from endangered nests from the hunting areas.

In this system, are used boxes for incubation and for raising chicks (figure 1), these being simple "constructions", made of softwood board (the box) and wire mesh (for breeding pens).

It is very important to choose the right land where the incubation boxes will be placed. It must meet several conditions from which we mention: the soil must be permeable, must be raised to prevent water stagnation, must be protected from strong winds, provide shade especially at noon, be as far away from localities, busy roads, other poultry farms, and last but not least, to be suitable for efficient disinfection, disinfection and rodent control.

The most expensive investment in such a farm is given by the external fencing, this being an indispensable element for operating at optimal parameters.

On this incubation field, the boxes can be arranged in groups - in batteries, keeping a maximum distance of 0.5 meters between the boxes.

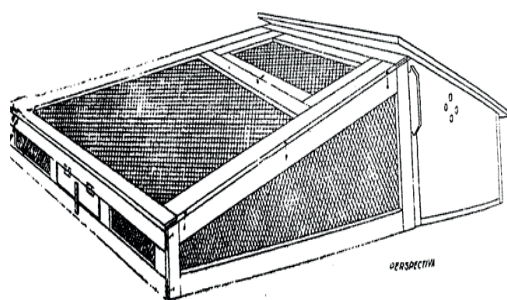


Figure 1. Incubation and raising boxes (Cristescu, 2003)

Another important step is choosing of the hens. It is very important that the hens chosen for hatching to be healthy, vigorous and gentle. Before introduction into the hatching boxes, the hens will be vaccinated and dewormed. Another operation prior to introduction into boxes is the

hatching test, performed on chicken eggs, a test that lasts for a period of 3-5 days.

A maximum of 20 eggs are laid in each hatch, under each hen, and in exceptional cases, due to the lack of hens, 24 eggs (figure 2). In natural situation, the pheasant female have an average of only 12 eggs in each hatch (Comșia, 1963).



Figure 2. Pheasant eggs in incubation hatch

Hatching takes place 23 days after laying eggs under the nest. Various studies have shown that it is necessary to monitor the nests, as there is a possibility that they will kill their chickens in the first 24 hours after hatching, but also at a longer interval, this "killing" taking place mainly during night (Babuția, 1964).

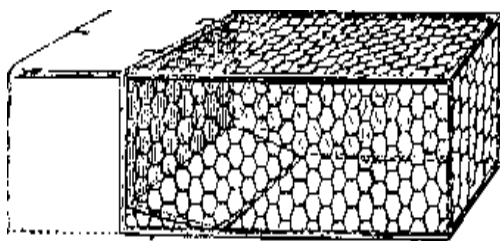


Figure 3. Pheasant growth box

The next step involves transferring of the hens and chickens to the raising area. This land, in addition to the similar conditions that the incubation land presents, must be cultivated in order to have permanent vegetation and implicitly animal food represented by insects. Research has led to the conclusion that the best results are obtained when the land is located in or near the forest, in meadows and close to a

water source. Growth boxes are placed on this land (figure 3).

Almășan et al. (1987, 1989), analysing the different types of crops, observe that the most suitable culture for this action is the alfalfa, the lucerne.

The lucerne (alfalfa) culture ensures both the shelter of the chicks from the action of the sun's rays, and the contribution of food of animal origin due to the numerous species of insects that "visit" this culture. More than that this crop, being perennial, can be exploited between four to seven years.

Pheasants are then transferred from raising yards to storage lofts of different types from where will be then delivered either to hunters' associations and clubs (for the colonization of hunting funds) or to slaughterhouses (less often in the case of pheasants raised in this system). The types of lofts (large aviaries) do not differ from one system to another, but only in terms of size, having to provide 4-5 square meters for an adult pheasant.

In this system, but not only, the success of pheasant breeding starts from the correct and complete feeding of the chicks. If this was a major problem, mainly due to the nutritional requirements of the species, in the last half century specific combined feeds have been introduced in pheasant breeding. If in the past ants were moving and multiplying, at present we can only rely on this combined fodder. The multiplication of ants is still applied today, starting on the idea of accustoming individuals to natural food in the living environment, the main purpose being to obtain more resistant, more adapted specimens. However, the studies did not reveal better results, in terms of viability, for the specimens fed in this way, in comparison with those in which the combined fodder was administered, as long as they came from the same breeding system.

This semi-intensive rearing system have a lot of advantages, like minimal investment in technology, good technological parameters (70-80% hatching, a relatively good average daily gain for young pheasants, obtaining pheasants are resistant to diseases and adapted to environmental conditions;, are good fliers, almost wild, and are wary of predators, and last but not least, the obtained individuals cumulate the qualities of the hunting pheasant. As

disadvantages we specify the dependence for intensive pheasant farms in order to obtain the eggs for hatching, the use of relatively large area for hatching and rearing yards, and the low capacity of production that cannot meet market demands.

It is obvious that this semi-intensive system is a good alternative for the population of hunting fields but not for the recovery of pheasants for slaughterhouses.



Figure 4. Pheasants in a storage loft at Gherghița farm, Prahova County

The intensive pheasant breeding system has developed in response to market demand for pheasant meat but also for the increasing demand for the population of hunting areas with this species.

An intensive pheasant growing farm is structured in several compartments.

Reproduction compartment. Individuals used for reproduction are maintained in this compartment. The sex ratio is 1:6 (1 male for 6 females) – "harem" reproduction system.



Figure 5. Male with his "harem" in a reproduction pen

The compartment is divided into pens, made of wire mesh on a wooden resistance skeleton. In each pen, according to the aforementioned sex ratio, are introduced 6 females and one male. (figure 4). Practically, each box corresponds to an egg compartment. Regarding the choice of breeders, healthy specimens are kept for reproduction, females that have produced at least 45 eggs and males with full plumage, and with a quiet behaviour. In addition to the breeders introduced in the pens, a percentage of 10% spare breeders will be retained. They are maintained in outdoor aviaries until their will be use (introduction into the boxes) when appropriate.

Cristescu (2003) shows that, if the laying compartments are insufficient to achieve production, the group reproduction system can be used. In this system, the individuals from the reproductive nucleus are introduced into storage or wintering aviaries, the sex ratio being 1:4,

ensuring an area of 5 square meters for each individual.



Figure 6. Male's fight

Particular attention must be paid to male behaviour. During the period of accommodation between them, there are fights that can result in quite serious injuries. (figure 6). In this case, the roosters are replaced.

Table 3. Comparative overview of pheasant rearing systems

No.crr.	System	Advantages	Disadvantages
1	Semi-intensive	<ul style="list-style-type: none"> - minimal investment in both technology and labor; - good technological parameters (70% -80% hatching), a relatively good average daily gain, etc.; - obtaining pheasants are resistant to diseases and adapted to environmental conditions; - individuals are good fliers, almost wild, and are wary of predators - the obtained individuals cumulate the qualities of the hunting pheasant. 	<ul style="list-style-type: none"> - dependence on intensive farms for the purchase of eggs for hatching; - the need for relatively large spaces for hatching and rearing yards; - low production capacity.
2	Intensive	<ul style="list-style-type: none"> -very good productivity; -ensuring of biological material from own farm, a fact that gives the certitude of quality of individuals. -Very good technological parameters. 	<ul style="list-style-type: none"> - expensive investments; - the pheasants obtaining in this system are less adapted for surviving in wildlife.

CONCLUSIONS

It is obvious that this species is suitable for breeding in captivity. Given the fact that the pheasant has developed in areas where intensive agriculture is practiced, unlike partridges, pheasant colonization of game areas is required as a mandatory measure both economically and recreationally - sports.

The choice of the growth system depends only on the preferences of the breeder, of the beneficiary, on the financial power of the investor, but above all on the possibility of capitalizing on the production.

ACKNOWLEDGEMENTS

This research work was carried out with the support of R.N.P. Romsilva R.A. and with the help of specialist teams from Pheasant farms Gherghița (Prahova County) and Ghimpați (Giurgiu County).

REFERENCES

Almășan H., Antohe, A. (1987). *Research to establish the varieties of plants to be grown in the fields for feeding game from high density funds*. Annals of the I.C.A.S. Bucharest.

- Almășan, H., Gângă, A. (1989). *Establishing forestry-hunting measures for the arrangement of hunting grounds populated with pheasants*. Annals of the I.C.A.S. Bucharest.
- Babutia, T. (1964). *Establishment of losses in harvesting rabbits and pheasants depending on the applied methods and harvesting conditions / Stabilirea pierderilor la recoltarea iepurilor și fazanilor în funcție de metodele aplicate și condițiile de recoltare*. INCEF manuscript.
- Castiov, F. (2010). *Ecology and management of game in the agricultural area: pheasant and partridge / Ecologia și gospodărirea vânatului din spațiul agricol: fazanul și potârnichea*. <http://www.scribd.com/doc/195331296/Faz%20...%20re-Castiov>
- Cazacu, O. (1973). *In the wake of domestication of animals / Pe urmele domesticirii animalelor*. Bucharest, RO: Stiințifică Publishing House.
- Comsia, A. M. (1961). *Biology and principles of wild life / Biologia și principiile culturii vânatului*. Bucharest, RO: Academiei R.P.R. Publishing House.
- Cristescu, P. (2003). *Pheasant - growth and utilisation / Fazanul – creștere și valorificare*. Bucharest, RO: Regina din Arcadia Publishing House.
- Hill, D., Robertson, P. (1988). *The Pheasant. Ecology, Management and Conservation*. Oxford, UK: Blackwell Scientific Ltd. Publishing House.
- Scarlatescu, G. M. (1977). *Study of pheasant populations in the main pheasant farms in Romania / Studiul populațiilor de fazan din principalele fazanerii din România*. Bucharest, RO: Agro-Silvică Publishing House.
- xxx (1979). *Hunting studies and research / Studii și cercetări cinegetice*. Bucharest, RO: Agro-Silvică Publishing House.