

Breeding Aviary Pheasants – Passion or Source of Income?

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The pheasants living in Poland are not native here, but are hybrids of several species, subspecies and genera of the pheasant family (Phasianidae), brought to Europe in different historical periods. They are known as common pheasants or ring-necked pheasants (Dzięciołowski et al., 1971; Mróz, 2003). Pheasants have adapted well to Polish conditions and have for years been popular gamebirds, meaning that they have been subjected to applicable wildlife management regulations. However, exploitation of the population is limited to the yearly harvest of a predefined number of males in each controlled hunting zone, an amount resulting from inventory estimates. This breeding measure is used to regulate the sex structure and ensure repeatable utilisation of the population year after year. Simultaneously, the balanced harvesting of renewable natural resources ensures sustainability of the population and contributes to its numbers showing a non-deteriorating trend, contrary to other small game animals (Kamieniarz, 1999; Regulation of Minister of the Environment of 11 March 2005, Bresiński et al., 2003; Mróz, 2003; Motyl, 2007; Dzięciołowski, 2011; Flis, 2018).

Undoubtedly, among the elements with considerable impact on the dynamics of pheasant population is the yearly introduction of farmed birds (bred in aviaries or, less frequently, in cages) to natural habitats. Although opinions on the quality of materials obtained from aviaries to be introduced into natural habitats are divided, anatomic and morphologic differences between artificially bred and wildlife birds are usually insignificant and mainly boil down to body weight. Psychical and behavioral features of specimens introduced into natural habitats are far more important for their survival than anatomy and morphology. Therefore, it is recommended that before being introduced into natural environment, pheasants be kept in dedicated adaptation aviaries, in conditions close to natural in terms of the habitat and the food (Manelski, 1999; Durlej, 2007; Dziedzic, 2007; Pudełko, 2012; Beeger et al., 2017).

Pheasants are introduced into hunting areas mainly by hunters associated in hunting clubs of the Polish Hunting Association as part of multidirectional environmental programmes aiming at moderating the decades-old regression of major species of small game animals. As a general rule, the pace of introductions depends on the number of wildlife birds, suitability of the area to be used as a pheasant hunting area and the financial capacity of hunting clubs. In most cases, the number of birds introduced into natural habitats equals 25 to 30% of the size of the population in spring. Combined with balanced hunting management, the action ensures population stability or contributes to its modest increase (Bresiński et al., 2003; Flis, 2012, 2018; Zaborowski, 2012).

Enclosed Pheasant Breeding Centres

Enclosed pheasant breeding centres have remained quite common for years. A Caucasian Pheasant breeding centre is known to have functioned already in the 11th century in the Czech Republic. In the 16th century, the first Chinese Pheasant farms appeared, while Mongolian Pheasant is believed to have been bred since the early 20th century. In the interwar period, the then Polish lands were also abundant in pheasant farms, known virtually all over Europe. However, it was crossbreds that

were kept there. Enclosed pheasant breeding centres flourished again in the 1950s, a fact forced by the necessity to restore populations decimated by the war (Dzięciołowski et al., 1971; Mazaraki, 1993).

According to applicable law, wild animal production is prohibited, except for pheasants, deer and fallow deer, classified as livestock (Hunting Law; Act on the Organisation of Livestock Breeding and Reproduction). With a few exceptions (small-scale amateur practice), farm breeding of pheasants in Poland is subordinated to the satisfaction of needs of reasonable hunting economy. Amateur farms are in turn usually kept by enthusiasts in the form of small backyard aviaries. Over recent years, small 'aviaries' have become increasingly popular, as elements enhancing the functioning of agrotourism households (Dzięciołowski et al., 1971; Mróz and Pudyszak, 2002; Mróz, 2003). Pheasants of virtually all subspecies are common in such aviaries. However, such breeding centres are insignificant for production, whether in terms of slaughter or bird introduction into natural habitats. Going further, farm breeding of pheasants is not oriented on production of high-value materials to be introduced into natural habitats. Pheasant breeding for slaughter or egg-laying, although not totally absent, is not a very common practice in Poland. Irrespective of the type of breeding, all the actions concerning pheasant maintenance described herein, in legal terms, must be reported to the District Veterinarian (Act on Animal Health Protection and Combating Infectious Diseases in Animals).



Phot. 1. Breeding aviaries

Phot. 2. Makeshift nest and eggs lost in different aviary areas



Technical Aspects of Organisation of Pheasantries

The central place in each pheasantry is occupied by aviaries in which the birds are kept. Aviaries are wire-fenced enclosures placed in a row and installed on permeable soil. Each box in the aviary is suitable for 6 to 10 (max. 20) birds and its area equals c.a. 20–25 m² (Phot. 1). Equally significant is

their height, preferably from 2.5 to 5 m, to allow birds to perform short flights. This parameter is particularly important where the birds are intended to be introduced into natural habitats. Aviary walls can be made of steel wires, while the roofing should be made of plastic mesh or string to protect the birds from wounding or damaging their wings and heads when flying up. Inner meshing should be sunk into the soil down to c.a. 0.5 m, not to allow predators to dig a tunnel underneath. To ensure additional protection against predators, it is recommended that double electric fence be used: one above the surface of the ground and one along the wall-upper mesh contact line, preferably c.a. 10 cm from the mesh. The aviaries should be locked, to prevent accidental escaping of birds or entry of other animals including, in particular, predators, or unauthorised persons. If the birds are intended for introduction into the natural environment, it is important that the aviaries offer conditions close to natural, also in terms of shelters and natural prey.



Phot. 3. Eggs laid in the nest

Pheasant Maintenance

The most important factors for enclosed pheasant breeding centres include: ensuring welfare of the animals, feeding them properly and protecting them against diseases. In most cases pheasants are fed with complete feedingstuffs duly adjusted to individual stages of the birds' development. Additionally, feeds based on natural prey should be used. Constant access to water is equally important, in all rearing periods. Another important element of pheasant breeding is the reproduction period, as the majority of production farms are run based on own reared material. The 'breeding flock' plays a central role in this respect, as the starting point to other actions related to reproduction and rearing of birds. The maintenance of an appropriate sex structure within the breeding flock is not without significance either. The most frequently pursued aim is that there are at most ten hen pheasants to one male. In aviary pheasantries, female pheasants usually drop eggs in different parts of the aviary in the egg-laying period (Phot. 2). Therefore, to optimise such breeding centres and avoid egg losses, artificial nests should be used in aviaries (Phot. 3). It should be noted, however, that 50 or more eggs can be obtained from one hen pheasant in enclosed breeding centres, compared to 15 in the natural environment. With this egg yield, it is possible to obtain 20-30 chicks from a single laying hen.

In enclosed pheasantries, the incubation, hatching and rearing of chicks is of utmost importance. While in big pheasantries breeders usually have own incubators and rearing houses for hatched chicks, smaller ones commonly use third-party hatcheries and practise in-house rearing (Phot. 4). In the first days of life, newly-hatched chicks should be fed with feedingstuff containing at least

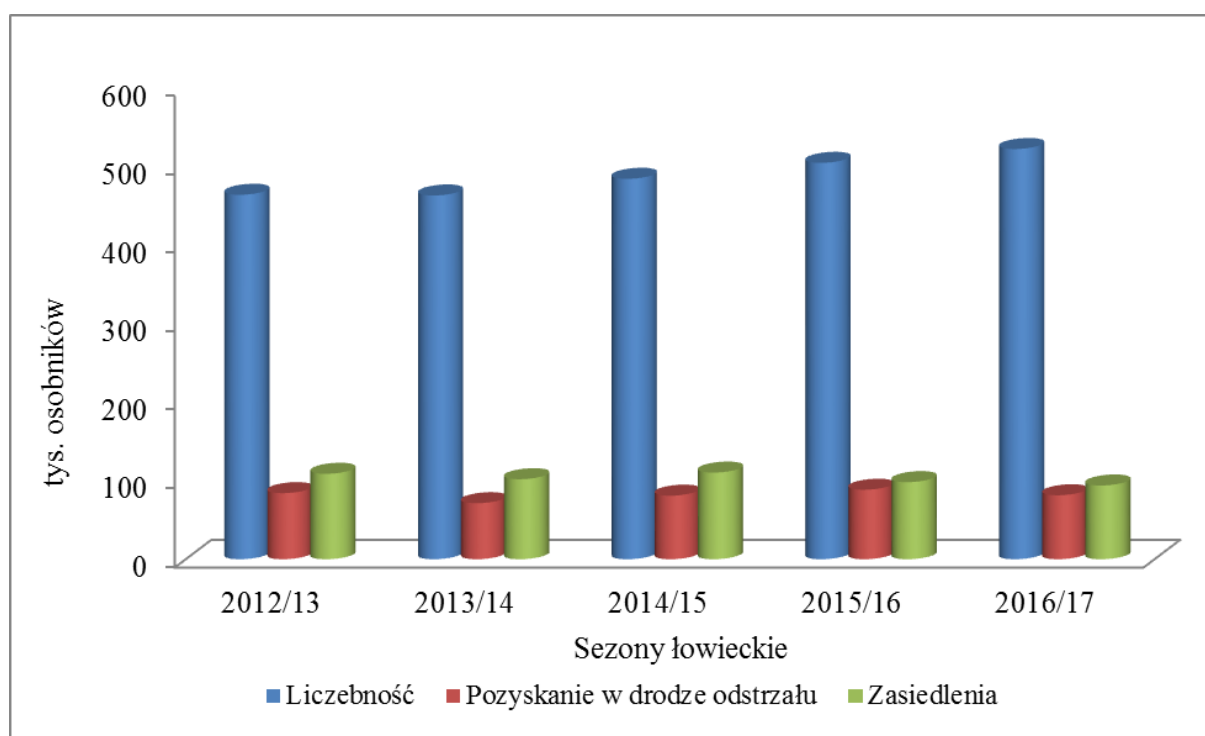
30% of animal protein. In subsequent rearing stages, the birds' diet should be based on complete feedingstuffs with a growing content of natural products. In this way, the birds are gradually prepared to find food in the wild.



Phot. 4. Rearing of chicks

Cost-effectiveness of Pheasant Breeding

The establishment and maintenance of any animal farm generates costs related to the organisation of the technical infrastructure needed to start the undertaking. When it comes to farms of pheasants which are later to be introduced into natural habitats, large-scale production is a must. This, in turn, entails considerable costs that must be incurred at the stage of farm organisation. Additionally, it is also necessary to know the local market of hunting clubs, the only potential recipients of reared birds. Given the considerable crisis of small game animals in the majority of hunting areas in Poland, introduction of certain species into natural habitats is quite common; hence the notable demand for reared pheasants, partridges or hares. In order to achieve a comprehensive overview, it must be mentioned that in the recent hunting seasons, hunters introduced c.a. 100,000 pheasants into natural habitats within the areas leased by hunting clubs (Fig. 1). As illustrated, the demand for animals to be introduced into natural habitats is considerable. On the other hand, enclosed breeding centres sell both young birds (one-year-old chicks) for further rearing and introduction, and adult specimens (10-12 weeks). The average market price for one-day-old chicks is PLN 4.5 per chick, while the price of adult pheasants, 12 to 14 weeks old, is averaging PLN 25-30, depending on the region and supply on the local market. Additionally, pheasant eggs are also sold to beginner breeders or for culinary purposes. The price of pheasant eggs on the market varies from PLN 2 to 2.50 per egg.



thous. birds, Hunting seasons, Population size, Shooting harvests, Introduction

Fig. 1. Population size, hunting harvests and introduction of pheasants in Poland in districts leased by hunting clubs

Conclusion

Enclosed pheasant breeding centres have been gaining popularity over the last few years. Some of them are minor aviaries or enclosed farms run by enthusiasts, usually owners of agrotourist farms, in order to add colour to the local tourism. Animals covered by wildlife management regulations can be bred with the main purpose being their further introduction into natural habitat. In most cases such undertakings require consent from the minister competent for the environment. The procedures for pheasants are much simpler and only require reporting to the District Veterinarian. The potential pheasant marketing opportunities are broad, provided that the quality of the material is good and the price is attractive. To sum up, while remaining a passion, pheasant breeding in enclosed farms can also be an alternative source of income, especially that it is not very complicated. The passion can thus be combined with a hobby and turned into a source of modest income.

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Summary

The paper presents legal, technical and economic aspects of the husbandry and closed breeding of pheasants. In legal terms, the establishment of this type of breeding is simple, as it is based solely on reporting this fact to the District Veterinarian. Practical aspects involve spending on the organization of a breeding farm, which is compensated by the commercial possibilities of both raised birds and eggs. Such projects are oriented towards the production of high quality material for the purpose of reintroduction into natural habitats. Such breeding farms are based on keeping birds in aviaries in welfare-friendly conditions and optimizing the management process in terms of their subsequent suitability for reintroduction. This is accomplished by providing adequate nutritional conditions and creating habitat conditions in breeding aviaries close to those which the reintroduced birds will meet in the field immediately after release. These types of breeding can be conducted either by enthusiasts or to improve tourist assets, especially of agritourism farms, but in a broader sense they can also be an alternative source of income.

Key words: *Phasianus colchicus*, breeding pheasant, profitability of breeding