

OLD HUNGARIAN POULTRY BREEDS AND THEIR USE IN HIGH QUALITY PRODUCTION

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***Summary:** History and characteristics of poultry genetic resources, including different chicken, turkey, guinea-fowl, goose and duck breeds demonstrate their important role in Hungarian agriculture. Following the expansion of poultry industry, old breeds gradually disappeared from the countryside, and were saved under preservation and conservation programmes, organised at present by the Association of Small Animal Breeders for Gene Conservation (MGE). The Association serves as the official breeding organization for old Hungarian poultry breeds in the Country.*

Multifunctionality has to be ensured in all parts of ecological type farming. Diversity of the environment, breeds (both plants and animals), production systems and products have equal importance in maintaining agro-biodiversity and sustainability, all of which should be considered to develop real, ecological type production. In this process, local poultry breeds should play an important role, even in the near future.

Special poultry production with old type poultry breeds needs natural or ecological production and a comprehensive controlling system. As an example for special poultry production, introduction of typical Hungarian poultry products under the trade mark called HU-BA, is also given.

Changing role of traditional poultry breeds in production

Poultry breeding is one of the most important branches of Hungarian animal production. Based on breeding traditions and local breeds, Hungarian poultry products – for their special quality – were highly appreciated by the European market in the first half of the 20th century. Intensive poultry production started in 1960s and made the country one of the most important exporters of poultry products in the world. By the end of the 1980s Hungary remained on the top in chicken meat export/capita, as well as in the export of goose products. For the last four decades domestic poultry sector has been almost exclusively characterised by intensive, high input production, especially in poultry meat (chicken, turkey and duck) and table egg. At present, following a decline and some kind of rearrangement among species of Hungarian poultry production in early 1990s, producers face new challenges.

Hungarian Poultry Genetic Resources

Following the expansion of poultry industry, old breeds gradually disappeared from the countryside, and were saved under preservation and conservation programmes. Old Hungarian poultry breeds are briefly shown below:

Hungarian chicken breeds

Until the beginning of commercial chicken breeding Hungarian chicken breeds of different colours (white, speckled, yellow and partridge and naked neck variants) were wide-spread in the country. They were preferred here not only for their relatively good egg production under harsh conditions, but for their excellent meat quality coming from the "seeking habit" of these birds, scratching for food regardless of hot or cold weather. Beginning in the 1960s, breeding

programmes and production of local breeds were replaced by commercial chicken hybrids, resulting in fast decrease of the population number of old Hungarian chicken breeds. All breeds and colour variants have been maintained as official gene reserves since 1973.

Hungarian turkey

Turkey breeding has been existing in the Carpathian basin for many centuries. In Hungary, white and black colour variants of turkey were known. Later the black variety practically disappeared after crossing with Bronze and other imported black turkey breeds at the beginning of the 20th century. As the result of crossings, however, Bronze turkey became adapted to the local conditions and it is considered now as an old Hungarian poultry breed. Copper turkey used to be popular in the southern part of Hungary. Body weight of the breed is somewhat lower than that of other turkey breeds, however, it is a very strong, resistant to diseases and well adapted local breed.

Guinea-fowl

Landrace varieties of guinea-fowl include bluish-grey (the most popular colour variety), white, grey, bronze or black and spotted. First reports about guinea-fowl breeding in Hungary were published at the beginning of the 20th century, though it must have been introduced into the Carpathian basin much earlier and kept as a game bird or a semi-domesticated animal around the houses. Its excellent meat quality, very good adaptability to different conditions, disease resistance, wild and seeking habit and low costs of keeping make guinea-fowl an excellent poultry species for natural production.

Hungarian goose and its frizzled variant

Hungarian goose is indigenous in the Carpathian basin. During the centuries it got accustomed to the special climatic conditions and farming systems of the region, which made it very precious in this part of Europe. Local goose breeds of different colours (white, greyish or spotted) produced high quality fatty liver, meat and feather approved by all markets. A unique variety of Hungarian goose – the Frizzled Hungarian goose – is considered now as a typical poultry breed for the Carpathian basin. Frizzling (F) is a mutant gene which causes the contour feathers to curve outward away from the body. Colour variants are white, grey or white-grey spotted.

Hungarian duck

The original Hungarian duck considered as an indigenous breed in the Carpathian basin used to be found mostly in white and wild, rarely in spotted, brown or black colour varieties. Because of its juicy, delicious meat, Hungarian duck was bred all over the country and was much more important for domestic consumption than goose. Nevertheless, starting with the early 1960s, Hungarian duck gradually disappeared as the result of crossing with imported duck breeds. Conservation programme of local duck varieties started in the late 1990s.

Conservation of Hungarian poultry genetic resources

Poultry conservation programmes are implemented for several indigenous, native or adapted poultry breeds in Hungary, including local chicken breeds and varieties, colour varieties of landrace turkey and guinea-fowl, local varieties of domestic goose and duck. The whole

conservation programme is supervised and partly financed by the Ministry of Agriculture and Rural Development and the National Institute of Agricultural Quality Control. It is coordinated and organised by the Association of Small Animal Breeders for Gene Conservation (as an NGO), which is the only breeding organisation for protected Hungarian poultry breeds. Conservation programmes are accomplished by some breeding institutions and farms. The main result of the conservation programme is the stable number of chicken and increasing number of other traditional poultry elite stocks.

Utilization of traditional poultry

Several believes and misbelieves exist about the possibilities of utilization of old, traditional poultry breeds. Conservationists claim that resistance and tolerance to the environment of old breeds are much higher and lower performance is compensated for by higher quality and healthy food, where traditional production systems and traditional breeds are much advantageous for the environment, the animal, the producer and the consumer too. On the contrary, poultry industrialists are convinced that the cost of production with intensive hybrids is much lower, where tolerance and disease resistance of animals can be made up for by the application of appropriate technologies and preventive health care within a narrow frame of a uniform production system. The result is the change of the traditionally tasty poultry meat and egg of high nutritive value towards the “safe but free of everything” poultry product. In this process animals themselves and human skills needed to take care of them are losing their primary importance too. The problem is not so easy to solve, especially, if the gap between financial backgrounds of different farming systems, e.g. intensive vs. ecological is considered.

Parallel with agricultural policy of EU and related national programmes intending to develop agriculture in a multifunctional and sustainable way, poultry conservationists seem to have good chance for using poultry genetic resources in alternative production systems. To prove advantages of old breeds, and to show their role in returning to and maintaining sustainable agriculture, appropriate research with traditional poultry breeds and alternative production systems is of major importance.

Example for special poultry production: HU-BA

As part of the conservation programme, MGE and its institutional partners have been working on the elaboration of the genetic bases, management and quality control of production of the *Hungarikum* type quality poultry products. Special poultry production needs old Hungarian type poultry breeds, natural or ecological production and a comprehensive controlling system, by which typical Hungarian product, called *HU-BA* will be produced. Further important aspects of *HU-BA* production are conservation of old Hungarian poultry breeds and breeding traditions, as well as rural family farming. Making *HU-BA* products more marketable, inclusion of ecological type mixed farming in production is very promising, if incorporation of poultry production into ecological plant cultures or horticultures can be solved. This type of production can provide a model for development of ecological type mixed farming systems including poultry, for other countries too.