



NATIONAL AGRICULTURAL
AND FOOD CENTRE

RESEARCH INSTITUTE FOR ANIMAL
PRODUCTION NITRA

CHARACTERIZATION OF NATIVE SLOVAK CHICKEN AND GOOSE

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December 7th, 2017

ANIMAL 2017
BIOTECHNOLOGY

Nitra, Slovak Republic

POULTRY

- Poultry breeding has undergone enormous changes during the last decades
- Poultry industry is separated on two lines of production: egg and meat
- Poultry - poultry (chicken, turkey, japanese quail, guineafowl)
 - water poultry (goose, duck, muscovy duck)

ORAVKA CHICKEN

- started in 1950-ies under the guidance of Ing. V. Babushkin at the Research Institute for Poultry
- by combinatorial crossing of regional breeds with breeds of Rhode Island Red, New Hampshire and Wyandotte White



ORAVKA CHICKEN

Goal :

to develop a breed suitable for harsh climatic conditions of northern Slovakia which can be kept in free range



ORAVKA CHICKEN

- it was adapted for egg and meat production
- in 1990 the yellow-brownish Oravka and in 2008 white Oravka were recognized as an independent Slovak national breeds



Bantam Oravka

- developed in the 1980s as result of crossbreeding of Oravka with Bantam Dresdner and Bantam Sumavanka
- follow the large fowl standard in all respects, however, the feathering color is more intense
- recently Bantam Oravka is keeping only in original colour yellow-brownish



Characteristics

- hard rectangular frame,
- comb is rosette, medium size, the mandrel follows the header line;
- legs are medium length, without feather, yellow, red tinted strip (lampas) on the sides of the bows is wanted; fingers are straight; well stretched;
- feather is rich; well-fitting; solid structure



Performance

Large Oravka

- body weight of males is between 2.8 and 3.3 kg, body weight of females is between 2.2 and 2.7 kg
- egg laying ranges from 180 to 200 pcs per year; eggs are of a brownish shell, their average weight is about 55 g

Bantam Oravka

- body weight of males is between 1.0 and 1.3 kg, body weight of females is between 0.9 and 1.1 kg
- egg laying are 140 pcs per year; eggs are of a brownish shell, their average weight is about 40 g

Conservation of Oravka chicken

The National Agriculture and Food Centre - Research Institute for Animal Production (NAFC-RIAP) Nitra, Department of Small Farm Animals kept the conservation flock of yellow brownish Oravka chicken. The laboratory of the Department of Genetics and Reproduction of NAFC-RIAP Nitra is focused on the isolation, culture and cryopreservation of blastodermal and primordial germ cells in chicken.



Performance of chicken genetic resources

Table 1 Reproduction traits of the yellow-brownish Oravka in 2017 on NAFC-RIAP Nitra

Line	Loaded eggs (pcs)	Fertilized eggs (pcs)	Fertilization (%)	Hatched chickens (pcs)	Hatchability (%)	
					from loaded eggs	from fertilized eggs
OR 1	195	179	91.79	137	70.26	76.54
OR 2	213	207	97.18	171	80.28	82.61
OR 3	235	216	91.91	181	77.02	83.80

Table 2 Body weight of chickens during rearing in 2017 on NAFC - RIAP Nitra

Line	Body weight by hatching (g)				5-week old (g)			
	♀		♂		♀		♂	
	n	$\bar{x} \pm SD$	n	$\bar{x} \pm SD$	n	$\bar{x} \pm SD$	n	$\bar{x} \pm SD$
OR 1	50	40.7±2.5	57	41.5±2.7	49	442.2±57.3	57	524.9±58.5
OR 2	44	40.7±2.9	63	40.7±2.7	44	432.2±61.3	63	524.5±66.8
OR 3	51	40.6±2.6	69	41.5±3.1	51	431.0±59.1	69	514.6±65.6

Line	12-weeks old (g)				20-weeks old (g)			
	♀		♂		♀		♂	
	n	$\bar{x} \pm SD$	n	$\bar{x} \pm SD$	n	$\bar{x} \pm SD$	n	$\bar{x} \pm SD$
OR 1	49	1127.7±129.6	57	1470.5±190.7	23	1947.0±165.2	7	2858.0±230.5
OR 2	44	1130.0±147.2	63	1471.8±203.7	26	1959.2±229.4	8	2797.5±265.7
OR 3	51	1171.2±181.5	69	1504.8±191.8	29	2016.6±235.6	8	2973.8±192.1

Current status

- Yellow – brownish Oravka 15 registered breeding farms with 24 roosters and 187 hens
- White Oravka - 4 registreted farms with 4 roosters and 33 hens
- Bantam yellow brownish Oravka -7 registered breeding farms with 7 roosters and 39 hens

There are farms which are registred as pure Oravka breeds, however in Slovakia are many Oravka farms without flock registration.



GOOSE

- the oldest species of domestic poultry
- two native breeds in Slovakia :
 - Slovak white goose (Slovak goose)
 - Suchovska goose
- they were categorized as endangered breeds

SLOVAK WHITE GOOSE

- was established in 1940s on the basis of regional breeds from South-Eastern part of Slovakia (from Nitra and Levice areas)
- the aim of breeding was to create a medium weight triple purpose (meat, liver, feather) goose suitable for corn areas, a strong resistant goose with a good pasturing ability and with preserved clucking instinct
- an original Slovak breed, it was not necessary to recognize it as a breed



Characteristics and performance

- middle-heavy breed of goose, noble appearance, firm constitution
- uses very good pasture
- by the first year of breeding male has the weight of 7 kg
- the goose female after the end of the first fertilization cycle has weight of 6 kg
- laying is 12 and more eggs with white egg shell, hatching eggs weight is 140 g
- feather is pure white, medium quality
- a high risk for the reproduction is a tendency of gander to be monogamic

Current status

- a low number of controlled flocks
- the highest in 2005 (83 birds: 24 males and 59 females)
- decrease trends till now



SUCHOVSKA GOOSE

- is suitable for pasture
- for small farming, because of the preservation of the clucking instinct
- the risk factor - is bred in a small breeding area



SUCHOVSKA GOOSE

- is a result of crossbreeding of local yellow feathering goose with French (Toulouse, Landes) and German (Pomorany, Steinbach)
- in the village of Suchá nad Parnou
- was recognized as a breed in 1995 in yellow wild colour

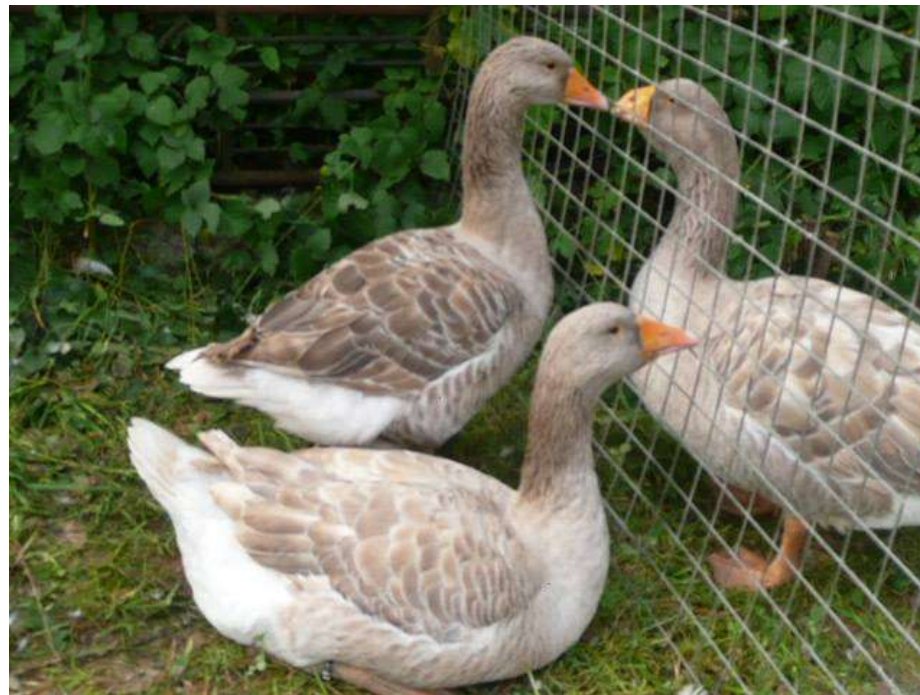


Characteristics and performance

- has bigger and hard body frame. The body is long, compact, muscled, firm, almost horizontally held, body width is equal to its height,
- body weight of males is between 6.5 and 7.5 kg, body weight of females is between 5.5 and 6.5 kg,
- egg laying ranges from 14 to 16 eggs,
- color of egg shell is white; hatching egg weight 140 g,
- feather is smoother, with more dust, color is yellow-wild.
- the characterization of the genetic diversity and structure of both native Slovak goose breeds was based on six microsatellite loci analysis

Current status

- the highest population was in 2005 (143 birds: 43 males and 100 females)
- decrease trends till now



Current status

- only number of animals registered in Slovak Breeder Association flocks
- there are also no registered breeders, but the purity is not guaranteed



CONCLUSION

- the native Slovak breeds, reared especially among breeders under conditions that are natural for the species
- have good welfare
- fed healthy, food without the addition of chemical preparations, medicines and antibiotics
- products (meat and eggs) are healthy
- a source of genes for future breeding strategies and research
- in poultry production system has an important advantage of biodiversity and sustainable agricultural production
- have more resistant to pathogens and environmental stressors

ACKNOWLEDGEMENT

The work was supported by the Ministry of Agriculture and Rural Development of the Slovak Republic.





THANK YOU FOR YOUR ATTENTION