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Gene reserves characteristics and risk populations identification in Slovak horses

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Introduction

- **changes of conditions in production systems & significant competition of breeds → risk of surviving of animal species**
- **some breeds strengthen their position, the others, not based on commercialization, started to decrease their number → became endangered**

- **identification & characteristics of risk population according to the number of animals of the breed (Bodó and Kadlečík *et al.*):**
 - **died out population with no renewing opportunity**
- **- critical population with less than 100 breeding females and maximum 5 breeding males**
- **- endangered population (in risk of dying out, with 100–1000 breeding females and 5–20 breeding males**

- - vulnerable populations with undesirable changes, endangering individuals, their number could reach 1000–5000 breeding females and 50–20 breeding males
- - uncertain or rare population of rare breeds with fast decrease of animals number (usually 5.000–10.000 breeding females and 5–20 breeding males)
- unknown breeds, not exactly described yet or newly improved breeds still not recognized, or those in the process of recognition

- breeding & improvement in our region was negatively influenced by privatization, bankruptcy of purebred animals breeding in stud farms in the 90ties
- today's horse population reach the number around 10,000 only, placing SR to the last position in the horse size population in middle European region
- breed variability in the 2008: 11,068 horses of 27 different breeds were bred in SR

- **Min. of Agriculture is planning to □ support of horse breeding namely for draught horses in agriculture and forestry including agrotourism and also in sport utilization in horse riding and hipotherapy**
- **annual lump sum investment stimulus per horse over 6 month of age reaches 1.000 Euro**

- **state of “certified breeding organization” in the area of horse breeding only 3 organizations were assigned by Ministry of Agriculture:**

- **Slovak Horse Breeding Association**
- **National Stud in Topol'čianky**
- **Turf Directory in Bratislava**

Results and discussion

- for consideration of state of threat and identification of risk populations the population size of horses and breed composition numbers in SR were investigated
- the lowest number of horses in the relationship to human population size (1,000 inhabitants) and also space arrangement of horses on 1 km² were found

Horse population size in the SR & neighbouring countries

Country	number of horses (to 31.12.2008)	number of horses /1.000 inhabitants	number of horses /1 km ²
Slovakia	11.068	2,15	0,22
Czech Rep.	67.036	6,48	0,85
Hungary	60.000	5,90	0,64
Poland	350.000	8,97	1,12
Austria	100.000	12,00	1,19

- according to number of representation and mentioned criteria 27 horse breeds are bred in SR
- 8 breeds out of them could be considered as **endangered** (Lipizzaner, Shagya Arabian, Slovak Warm Blooded horse, Furioso, Nonius, Slovak Sport pony, Hucul breed **and** Muráň Plain type of Norik horse)
- Nonius and Lipizzaner breeds are considered as critically endangered.

Furioso

- warm-blooded breed, improved in the Austro-Ugrian monarchy
- generous riding & carriage riding horse has middle to longer rectangle body frame & usually occurs in bay & white colours
- population size 220–250 horses
- studbook: 70 breeding mares & 12 breeding stallions
- breed represents the endangered population

Furioso



Lipizzaner

- warm blooded horse, carriage & sport riding horse
- good health, hardiness and nobleness
- population is represented by 70 to 80 breeding mares and 11 breeding stallions
- National Stud in Topol'čianky
- breed belong to critically endangered breeds group

Lipizzaner



Noriker

- **Norik breed of Muráň Plain type:**
- **cold-blooded type of horse**
- **population size 180–200 animals, basic herd consists of 60 breeding mares and 4 breeding stallion.**
- **breed properties: hardiness, undemandingness and willingness to work**
- **Norik population belong to endangered breeds**

Noriker



Hucul breed

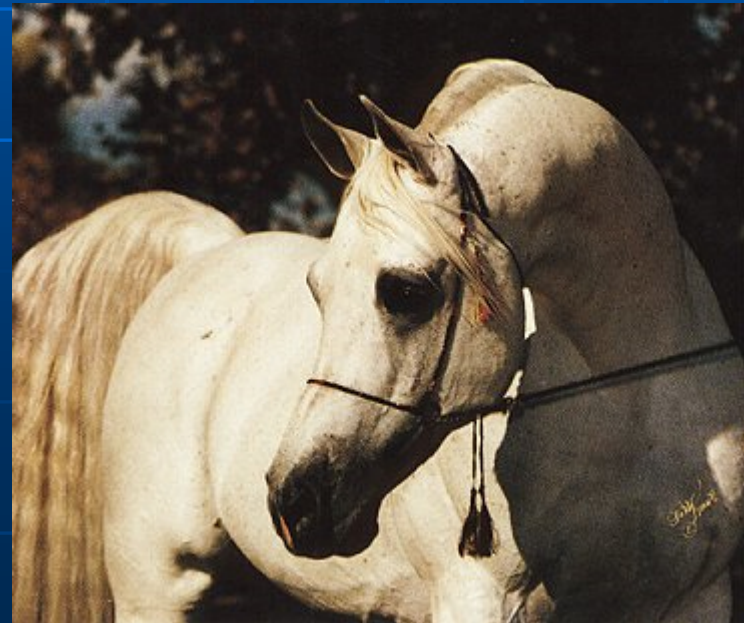
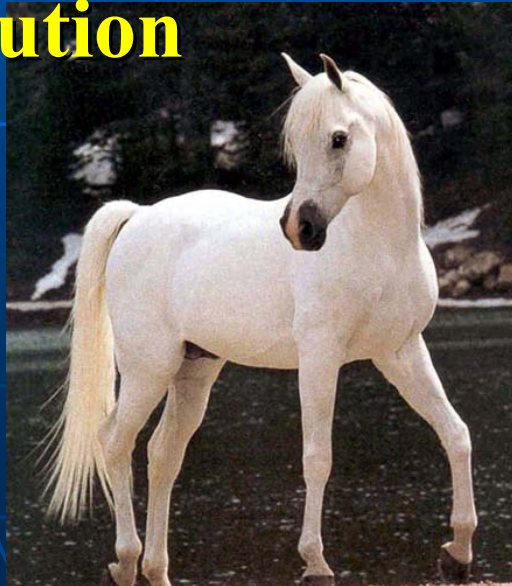
- smaller mountain breed with typical gaits in walk, suitable for overrunning the mountain obstacles
- breed is used also for load transport and sport riding
- population size: 150–180 animals
- nucleus herd in the National Stud in Topolčianky (50 breeding mares and 10 breeding stallions in 4 breeding lines)
- Hucul breed belongs to endangered breeds

Hucul



Shagya Arabian

- represents very noble riding and carriage riding horse with smaller to middle body frame, coat colour is mostly white, less commonly bay or black
- temperament, tireless horse with hard constitution



Nonius

draught, later riding horse with possible utilization in agrotourism
after liquidation of the Nový Tekov Stud the breed is characterized as critically endangered in SR



Slovak WarmBlooded Horse



Slovak Warm-Blooded Horse

- **created by merging of several half-blooded breeds or strains bred in SR in the past**
- **breed & used in riding sport and also in draught work**

Slovak Sport Pony



Slovak Sport Pony

- **harmonious sport riding pony with bigger body frame, tireless, with hard constitution**
- **breeding program contains impact of Shagya Arabian, Traken, Slovak Warm-Blooded horse, Welsh Pony and German Sport Pony**

Conclusion

- individual horse breeds are defined by often genetic variability of populations, bred in different regions
- different values of breeding characteristics are frequently presented in breed standards of different countries
- gene pool conservation activities in endangered horse breeds contributes to conservation and protection of cultural heritage of our regions

Thank you for your attention