

## SLAVONIAN-SRIJEM PODOLIC CATTLE

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### Summary

We considered the history of breeding, morphological feature characteristics and producing performances of the only one herd of Slavonian-Srijem Podolic Cattle in Croatia.

Futhermore, we also exposed the breeding plan and methods to preservation of Slavonian-Srijem Podolic Cattle genom, and reserch program of their morphological (osteological), producing and specilly fiziological feature characteristics.

In future, we will explore the blood groups, polymorphism of protein's system enzymatic activities and the others parametars which are in close relations with course and intensity of the metabolic processes.

*"It is the final time to save in our county this breed, the breed that is taking a very imortant place in our economic life. It is time to protect it, and to save it from dieing out, because it is our constantly source of income".*

F. Steinhausz

Following the quotations of F. Steinhausz from the year 1900, and based on the polling made in the region of the syrmian county, the podolian cattle was represented by 90,60% of the total number of cattle. Making research of spreading of cattle breeds in Croatia and Slavonia, O. Frangeš, found in the year 1903 out that the main podolian cattle breeding area was east from the line of Virovitica-Miholjac-Đakovo, south the area was bordered by the river Sava, north-east by the river Danube until Zemun, where the podolian cattle was represented by 92% of the total number of cattle. In the transitive area bordered west by Koprivnica, Đurđevac, Garešnica, Pakrac, Požega until Đakovo it was breed Buša, podolian cattle and different cross-breeds of these breeds with some others breeds.

After some 80 years Brinsej and Rastija (1974) emphasized that the podolian cattle in the region of Slavonija died out, except one herd on the Agricultural combinate "Jasinje" in Slavonski Brod. Unfortunatelu, this one died, too.

Congruently with these facts, in nowadays border of the republic of Croatia, there is no typical slavonian podolian cattle. The typical one died out. The reasons of that are well known, and there is no need to explain them.

With great difficulties and thanks to the enthusiastic work of prof. Caput and

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cooperators in year 1985 it was bought in the area of Fruška Gora the last podolian cattle herd, came from Sylvania. Because of the objective reasons for saving it, these cattle were placed in the region of Buzet (Istra) from the year 1985 until 1993. This region was not similar to the original breeding region, so the herd was in the year 1993 replaced in the village called Lemeš (near Križevci) where the environment was more suitable.

#### *Present structure of podolian cattle herd*

This is the last opportunity to save the only existing herd and to search its gen-pool. Because of that reason, there are planned several research works and activities.

We are pointing out the most important directions:

1. Save the existing genome
  - 1.1. Save the genome in situ
    - Breeding activities with target to save the physiological and biological qualities of this type of podolian cattle.
    - According to the plan to increase the number and quantity of nucleus herd by using the classic and modern methods, and primarily using the method of multiply ovulation and embryo transfer.
  - 1.2. Save the genome by conserving
    - deep frozen sperm
    - embryos freezing
    - to use the method of egg-cells insemination in vitro, and cut up the embryos and their cryoprotection
2. Research of morphological and physiological qualities
  - 2.1. Measurement of growth and development of certain parts of the body in the continuity of generations
    - osteological characteristics, especially the cranial
  - 2.2. Reproductive qualities
    - duration of pregnancy
    - period between two calvings
    - fertility-survival of the calves
    - longevity in breeding

#### *Croatian - Sylvania Podolian Cattle*

1. Quantity of podolian cattle in the past and nowadays
2. Saving the existing genome:
  - 2.1. In situ
    - realizing of breed and selection work
    - increasing the quantity and quality as planned
  - 2.2. Conserving
    - deep freezing of sperm
    - embryo freezing
    - micromanipulation with egg-cells and embryos

3. Research of morphological and physiological qualities

3.1. Morphological qualities

- measurer of growth and development
- osteological, especially craniological qualities

4. Reproductional characteristics

- duration of gravidity
- period between two calvings
- fertility and calvs surviveing
- longevity in breeding

5. Research on polimorfical systems, intensivity and direction of metbolic processes

- blood groups
- polimorphysm of the systems in blood and other tissues
- enzymes activity and activity of other intensity indicators and directions of metabolism
- research of fenotyp and genetic differenties between our podolian cattle and podolian cattle in other neighbour countries.

2.3. Research of polymorphycal systems, and measurer of intensivity and direction of metabolic processes in continuity of breeding generations.

- blood groups
- polymorphysm of different systems in blood and other tissues
- enzymes activity and activity of other indicators of the metabolism activity
- to research the fenotyp and genetic differenties between the physiological characteristics of "our" podolian cattle and the podolian cattle in the neighbour countries

- to save the only existing herd of the syrman podolian cattle in Croatia and to realize the mentioned activities and research work, it is necessary besides the material resources to ensure the multidisciplinary research work, including the cooperation of scientific and others institutes in the country, and especially to continue and intensify the international cooperation in the field of protection of this and other cattle breeds.