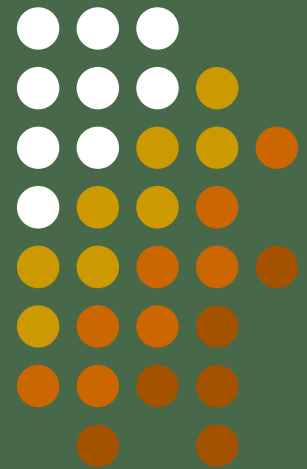




Preservation and use of farm animal genetic resources in Croatia



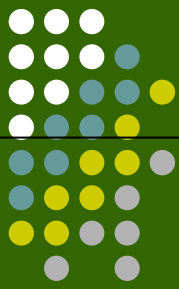
Caput P., Ivanković A.

Introduction



- Protection of the autochthonous breeds (6 species) have got the permanent character
- Today is focus on:
 - a) genetic characterization
purpose of reliable inventarisartion national autochthonous breeds
 - b) program of commercial use
aim of integral benefits these breeds.
- very small population are acquainted with the problem in establishing of efficient programs of economic use

Inventarisation (25 breeds, 2008)



Cattle :

Istrian cattle

Slavonian-syrmian Podolian cattle

Busha

Sheep:

Cres Island sheep

Dalmatain Pramenka

Dubrovacka Ruda sheep

Istrian sheep

Krk Island sheep

Lika Pramenka

Pag Island sheep

Rab Island sheep

Cigaja

Goat:

Croatian White goat

Croatian Spotted goat

Horse:

Posavina horse

Croatian Coldblood

Murinsulaner horse

Lipica horse

Donkey:

Littoral Dinaric donkey

Northern Adriatic donkey

Istrian donkey

Pig:

Black Slvonian pig

Turopolje pig

Poultry:

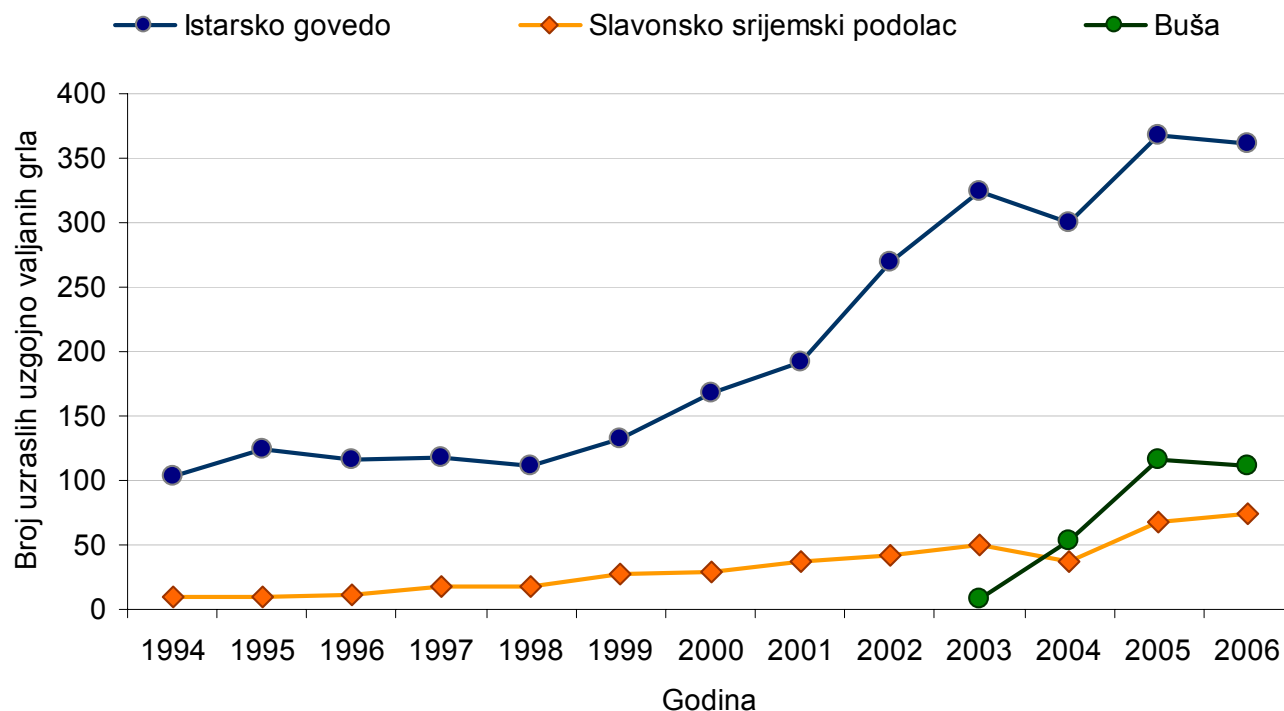
Zagorje turkey

Croatian hen

AUTOCHTHONOUS CATTLE BREEDS



- autochthonous cattle breeds involved the program of protection in the beginning nineties of XX. centuries, except Busha whose protection approach few years ago



Istrian cattle

- one of first protection programs of autochthonous breeds
- *in situ* protection program
- collected and deposited sperms and embryo
- several tens of disposable cows (110 cows) grow on several hundred reproductive available animals (430 cows)
- finished genetic and morphometric inventory
- own breeding program
- starts the program economic use of Istrian cattle through production of "meat from Istrian cattle" which includes all subjects in the production chain (breeder - consumer).





Slavonian Sarmian Podolian cattle

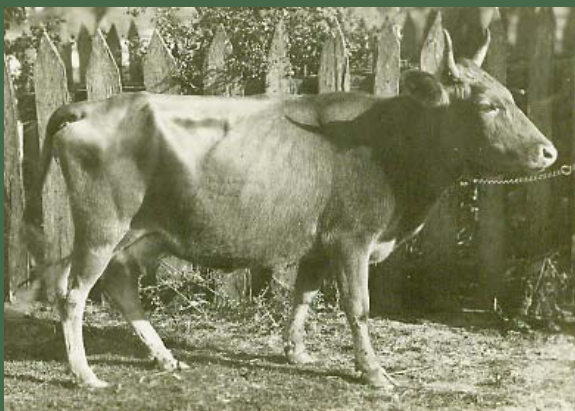


- last years observes establishing new herds
- worth mentioning establish the herd in the Nature park "Lonjsko field"
 - it is necessary will address the larger attention on the management of genetic structure (the raising in the relation).
- increase interest for breeding Slavonian Sarmian Podolian cattle



Busha

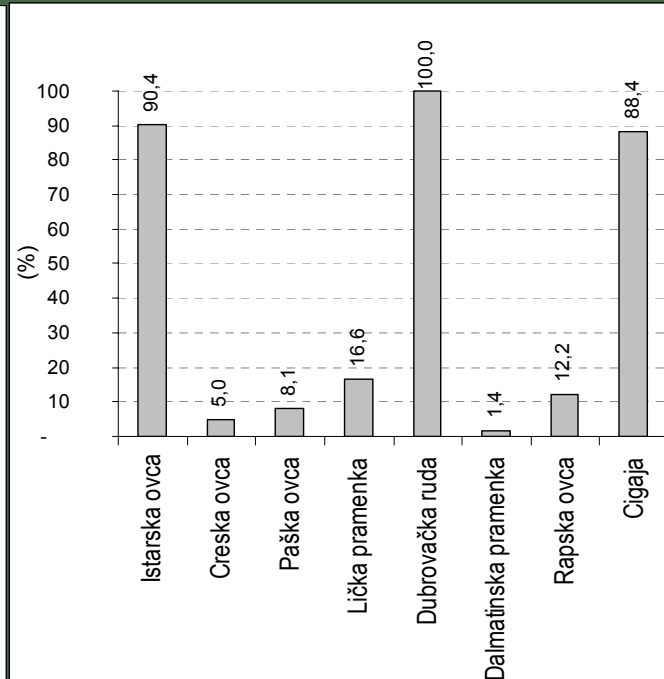
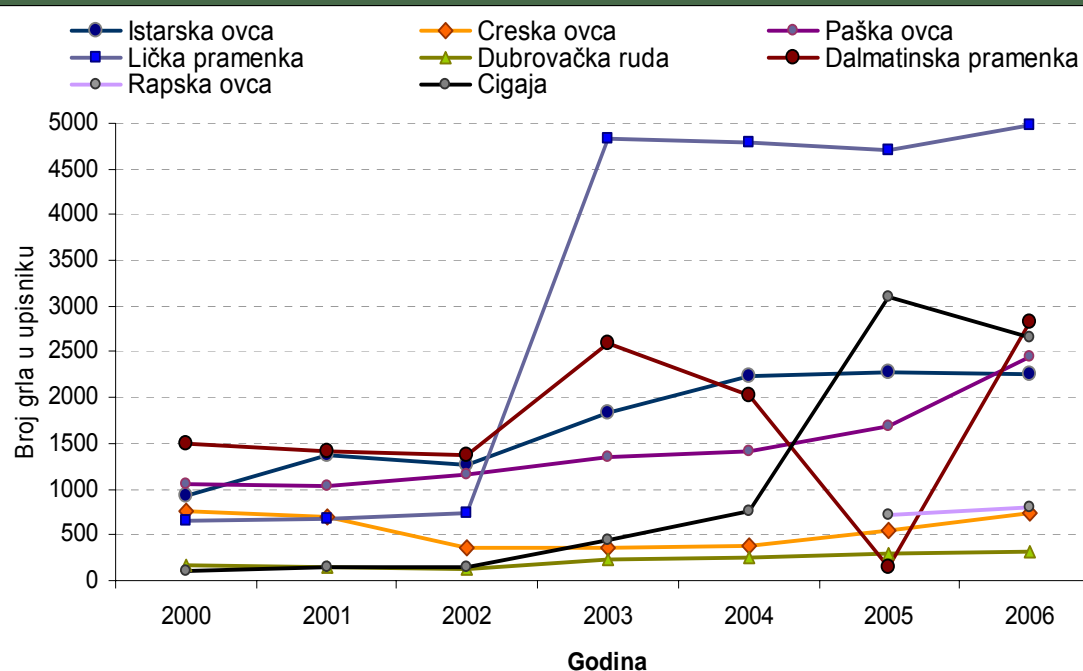
- before five years are included into protection program,
- collected the initial genetic material,
- deposited sperms more bull,
- we observe positive trend and interest of breeders for this breed,
- necessary is establish active cooperations with neighbouring countries on exchanges the experience (eventually genetic material)
- programs of the economic activation - can start operating when sizes and structures of population grow enough



AUTOCHTHONOUS SHEEP BREEDS



- mostly in production competitive
 - sheep production bases just on them.
- Pag Island sheep, Dalmatian Pramenka, Lika pramenka, Istrian Sheep, Cres Island sheep, Dubrovacka Ruda sheep, Rab Island sheep, Cigaja in the economic function (milk, cheese, meat),
- exterior, genetic and production traits has been determined
- endangered autochthonous sheep breeds is Dubrovacka Ruda sheep (300 heads)







AUTOCHTHONOUS GOAT BREEDS



CROATIAN WHITE GOAT

CROATIAN SPOTTED GOAT

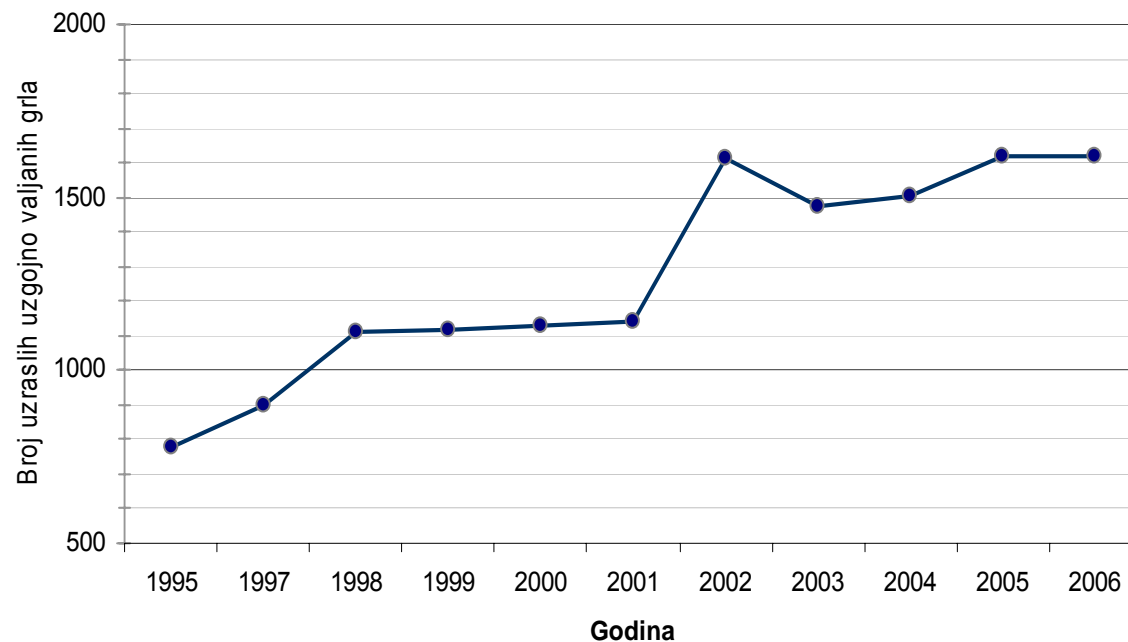
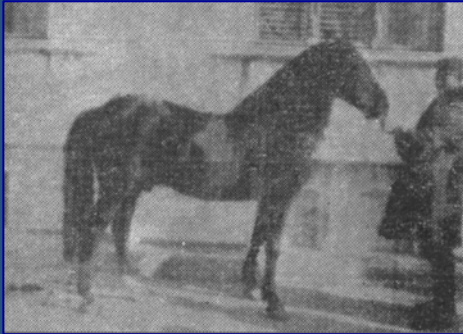
- economically are active
- Croatian Spotted goats are under the selection control
- Croatian White goats entry of selection control
- not in the group of the endangered autochthonous breeds



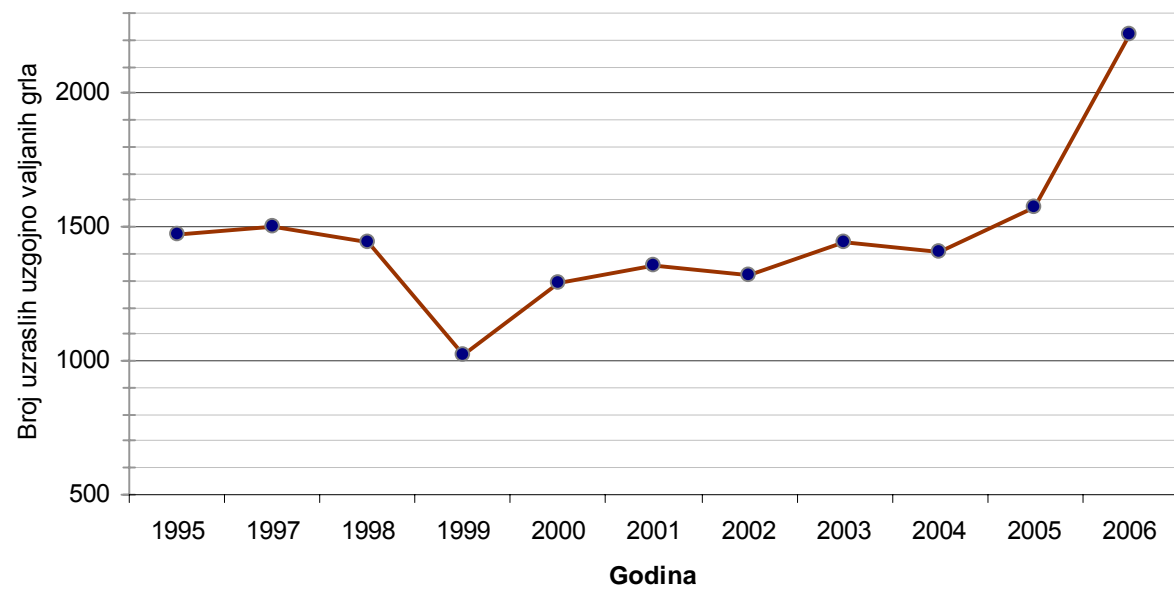
AUTOCHTHONOUS HORSE BREEDS



Posavina horse

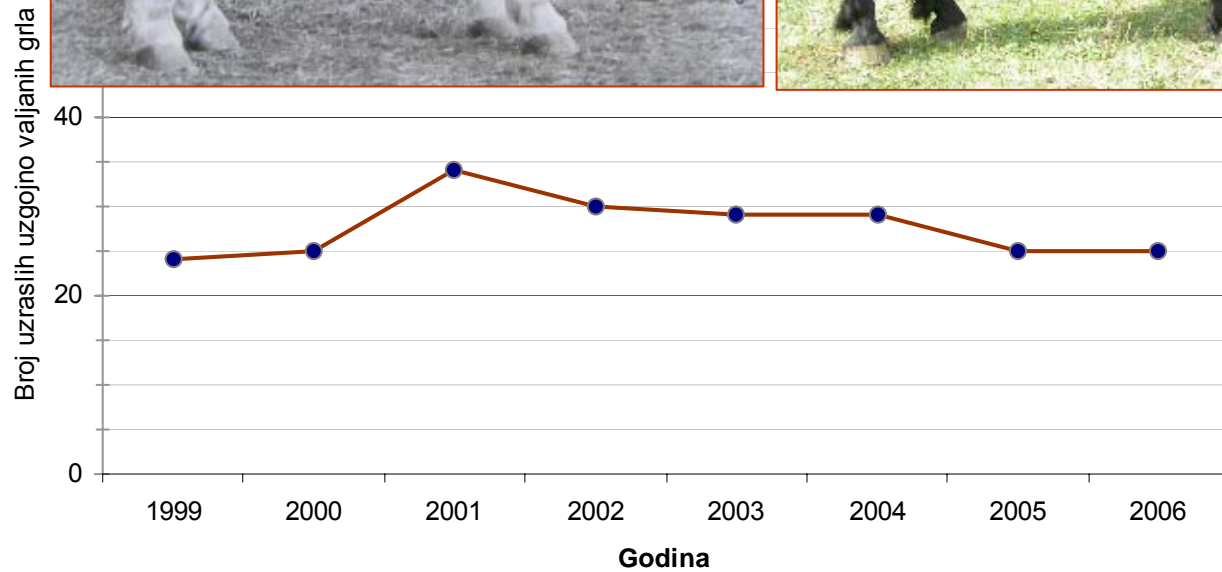


Croatian Coldblood

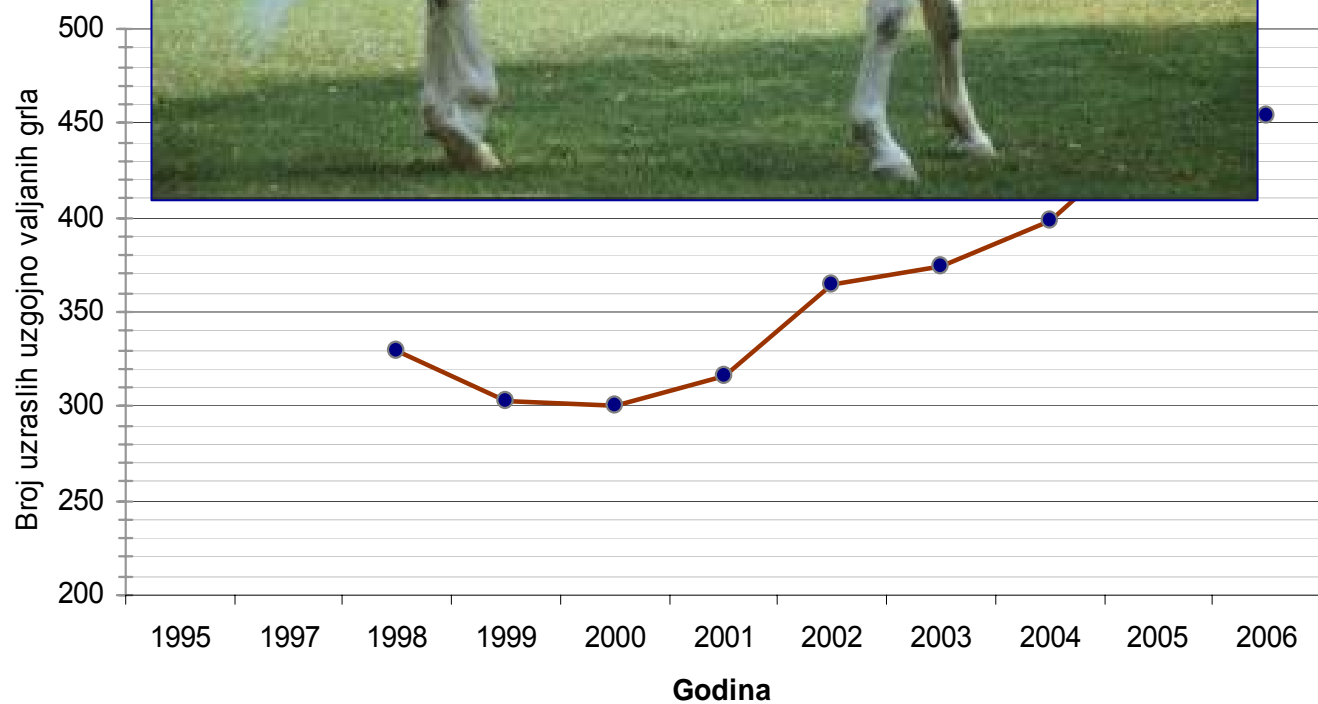




Murinsulaner horse



Lipican horse



AUTOCHTHONOUS DONKEY BREEDS



- three autochthonous donkey breeds (Littoral-dinaric donkey, North-adriatic donkey and Istrian donkey).
 - Littoral-dinaric donkey - most numerous
 - North-adriatic donkey and Istrian donkey are in group critically endangered breeds
- in situ programs (the registration, monitoring and incentives).
- poorly reproductively situation
 - in 2007 year of 734 female ass - 145 newborn offspring (HSC, 2008).



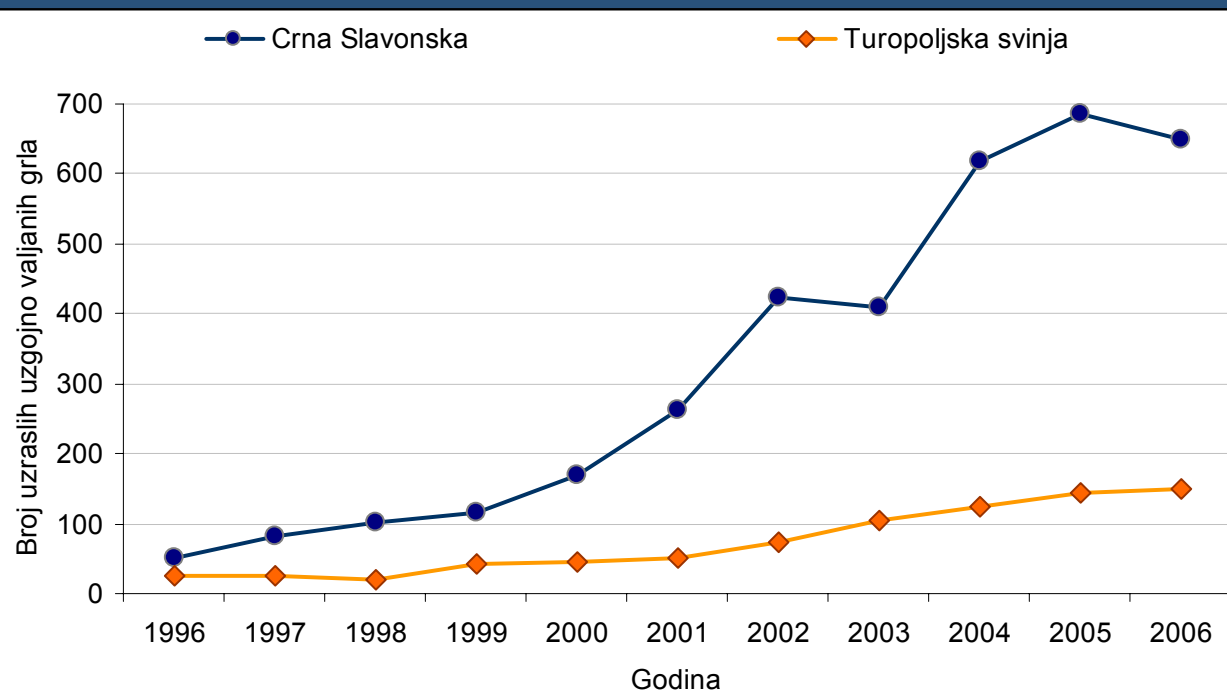


AUTOCHTHONOUS PIG BREEDS



Black Slavonian pig Turopolje pig

- *in situ* programme
- established breeding associations
- protections of Turopolje pig respects and practices the traditional method of pasture
- necessary economic breed affirmations - establishment more of nucleus herd
- Black Slavonian pig is active in programs of economic use (Kulen)





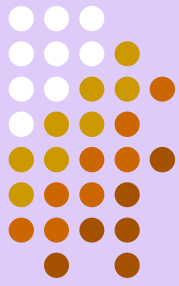
AUTOCHTHONOUS POLUTRY BREEDS



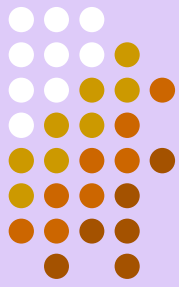
- Zagorje turkey
- Croatian hen
- Croatian hen is in the starting phase of establishment of base flocks
- population of Zagorje turkey is more stable
 - designed programs of economic use



Characterisation

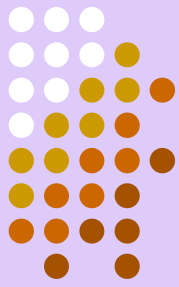


- Exterior,
- Production,
- Genetic:
 - Blood and milk protein polymorphisms,
 - Blood-groups,
 - DNA.



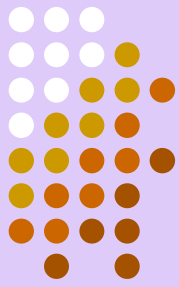
‘Gen Bank’

- Initial activities,
- Status
- Public interest,
- Government
- Locations – CAI (4)
 - Content
 - priorities
- Management – constant monitoring
 - Coordination authority (HSC)



THE ECONOMIC UTILISATION

- Pag Island sheep – ‘Pag sheep cheese’
- Lika or Dalmatian Pramenka – production of lamb meat
- Istrian, Cres or Rab Island sheep – mediterranean lamb meat and milk (cheese)
- Black Slavonian pig – original ‘kulen’
- Posavina horse – special meat products
- Ass milk – nutritive and therapeutic values – foal sausage
- Istrian cattle – meat of Istrian cattle
- Zagorje turkey – turkey meat



SIGN OF PRODUCT PROTECTION

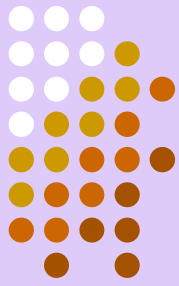
- Procedures of certification of products
- Geographical area
 - (Protected Geographical Indication)



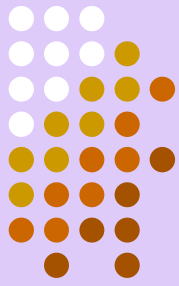
- Origin
 - (Protected Designation of Origin)



Ecological and cultural, social and historical values, ancient less productive breeds

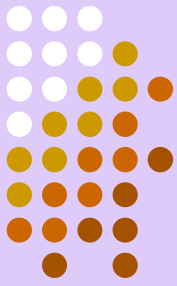


- maintaining the habitat – landscape
- integral part of rural development
- in program of traditional and cultural manifestations
- in tourist programs



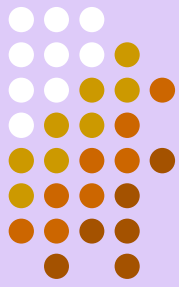
Breeders associations

- Stimulate connecting the breeder through breeder associations
- Breeders – active contribution in realization of conservative programs
- Exchange experience and genetic material



International cooperation

- Croatia have more transboundary breeds (Murinsulaner horse, Slavonia-syrmian Podolian cattle, Istrian sheep, ...)
- needy international projects



CONCLUSIONS

- Croatia takes care about genetic heritage
- were animated the wider audience about the disappearance of authentic genotype – created positive atmosphere
- expert and scientific institutions are integrated in protection programs
- stopped negative trends (improved situation in most endangered autochthonous breeds)
- realised exterior, production and genetic characterisation
- provided permanent state financial support



Thank you for your attention!