ASSESING GENETIC DIVERSITY OF PAG SHEEP THROUGH PEDIGREE ANALYSES

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Introduction

- Animal Genetic Resources
  - constant erosion
  - the most vurnerable → autochthonous breeds
- Pag Sheep
  - milk (cheese)
  - meat (suckling lambs)
  - selection for dairy traits
  - estimated population ~ 38,000
  - under control ~ 5,300
- Aim → to estimate:
  - inbreeding rate ⎫
  - genetic diversity ⎭ pedigree

Figure 1 Pag sheep

Methods

- data: Croatian Ministry of Agriculture
  - total population: 10,380 animals
  - reference population:
  - 3,701 animals; 2011-2018
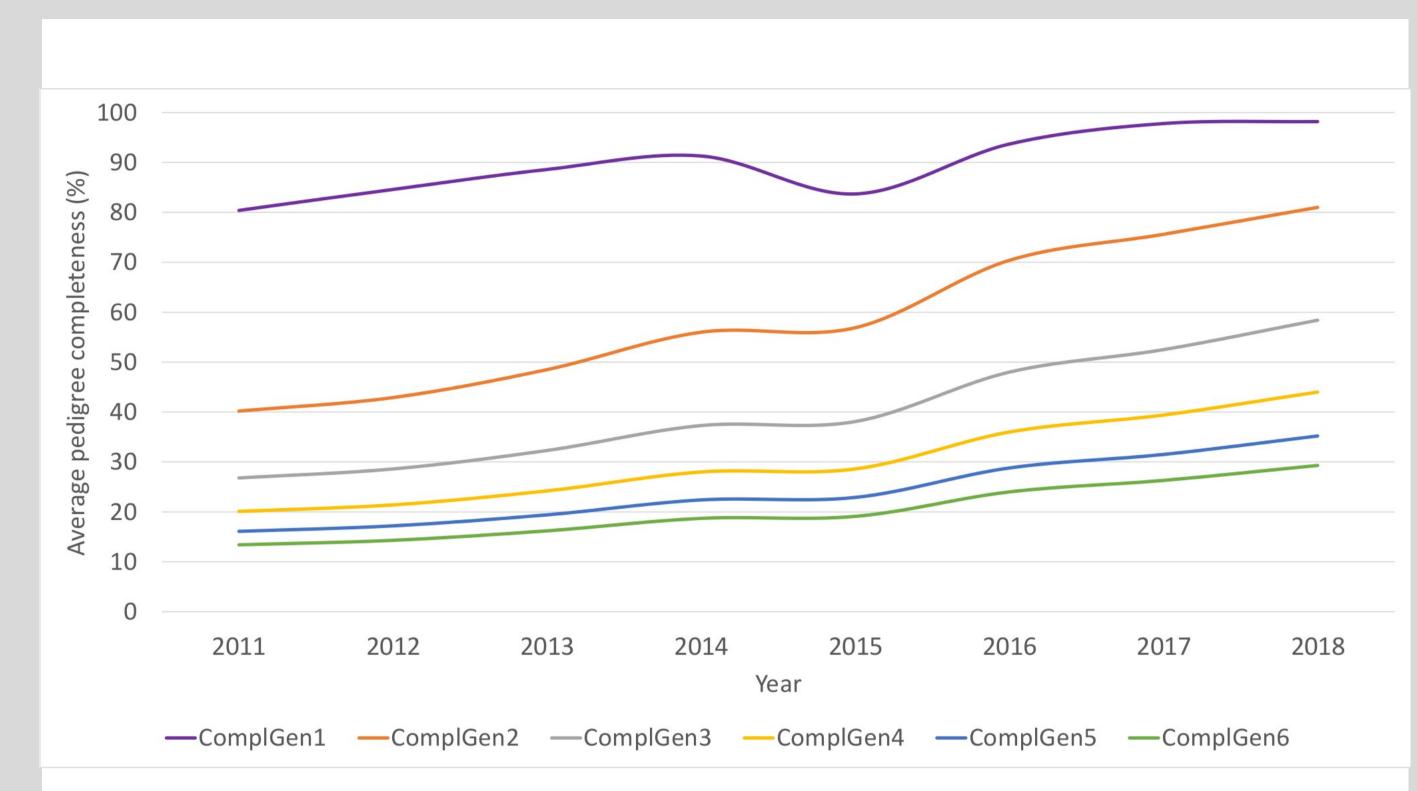- Software:
  - ENDOG v 4.8 POPREP

Results

Figure 2 Average pedigree completeness

Table 1 Pedigree population parameters

Parameter	Value
Complete Eqivalent Generation	2.3
Generation interval (years)	4.9
Equivalent No. founders	1,952
Equivalent No. ancestor	1,969
Effective No. founders	452
Effective No. ancestors	333
F (%)	~1.5
ΔF/generation (%)	~0.3

Conclusion

- Estimated genetic population parameters indicate satisfactory level of genetic variability in Pag sheep breed
- Inbreeding rate calls for more attention in future breeding to prevent loss of genetic variability
- Genomic information should help to estimate population specific parameters more reliably

Acknowledgements