










Monitoring of breeds' populations: „stories behind the data“


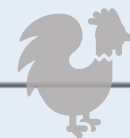



Risk categories based on the species reproductive capacity

Reproductive capacity	Males (n)	Breeding females (n)						
		≤100	101 - 300	301 - 1 000	1 001 - 2 000	2 001 - 3 000	3 001 - 6 000	>6 000
  High* 	≤5	Critical	Critical	Critical	Critical	Critical	Critical	Critical
	6 - 20	Critical	Endangered	Endangered	Endangered	Endangered	Endangered	Endangered
	21 - 35	Critical	Endangered	Endangered	Vulnerable	Vulnerable	Vulnerable	Vulnerable
	>35	Critical	Endangered	Endangered	Vulnerable	Not at risk	Not at risk	Not at risk
 Low**   	≤5	Critical	Critical	Critical	Critical	Critical	Critical	Critical
	6 - 20	Critical	Critical	Endangered	Endangered	Endangered	Endangered	Endangered
	21 - 35	Critical	Critical	Endangered	Endangered	Endangered	Vulnerable	Vulnerable
	<35	Critical	Critical	Endangered	Endangered	Endangered	Vulnerable	Not at risk

= critical,
 = endangered,
 = vulnerable and
 = not at risk.

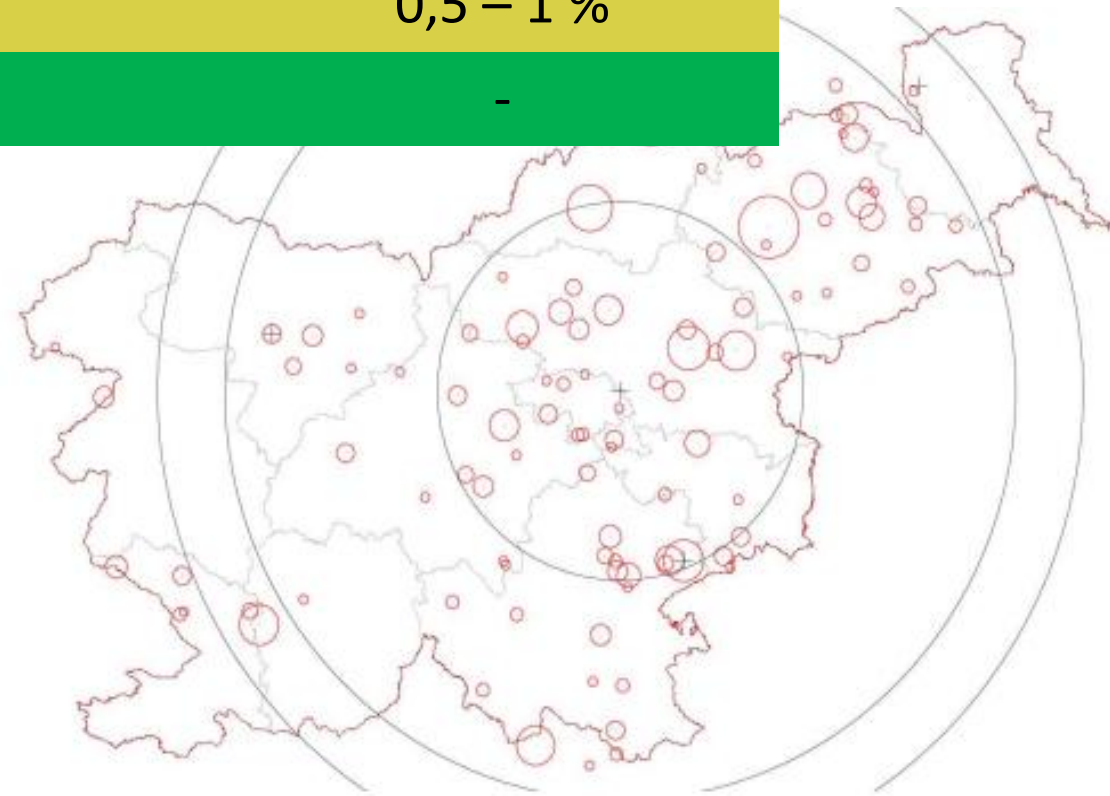
Risk categories for species with high reproductive capacity

Population trend and pure-breeding proportion		Population size (n)						
		Males (n)	≤80	81 - 20	121 - 800	801 - 1 200	1201 - 1 600	1601 - 2 400
Increasing trend and >80% pure-breeding  	≤5	critical	critical	critical	critical	critical	critical	critical
	6 - 20	critical	endangered	endangered	endangered	endangered	endangered	endangered
	21 - 35	critical	endangered	endangered	vulnerable	vulnerable	vulnerable	vulnerable
	>35	critical	endangered	endangered	vulnerable	vulnerable	vulnerable	not at risk
Stable or decreasing trend or ≤80% pure-breeding 	≤5	critical	critical	critical	critical	critical	critical	critical
	6 - 20	critical	critical	endangered	endangered	endangered	endangered	endangered
	21 - 35	critical	critical	endangered	endangered	vulnerable	vulnerable	vulnerable
	>35	critical	critical	endangered	endangered	vulnerable	vulnerable	not at risk

= critical,
 = endangered,
 = vulnerable and
 = not at risk.

Risk status based on geographical distribution and in ΔF

Risk status	If 75 % of population is located within the radius (km)	Rate of inbreeding per generation ΔF
1 Critical	12,5	$\geq 3 \%$
2 Endangered	25	1 – 3 %
3 Vulnerable	50	0,5 – 1 %
4 Not endangered	>50	-



Risk assessment in Slovenia

55 breeds

Register pasem

Avtohtone pasme

- Belokranjska pramenka
- Bosanski planinski konj
- Drežniška koza
- Istrska pramenka
- Kraški ovčar (knaševac)
- Krškopoljski prašič
- Posavski konj
- Slovenski hladnokrvni konj

Tradicionalne pasme

- Hafliški konj
- Lisasto govedo
- Slovenska grahasta kokoš
- Slovenska pozno operjena kokoš
- Slovenska srebrna kokoš
- Slovenska srnasta koza
- Slovenski veliki beli prašič

Tujerodne pasme

- Aberdeen angus
- Angleški pialnokrvni konj
- Barška koza
- Črna-belo govedo
- Islandski konj
- Kasaški konj
- Pietrain
- Rdeči angus
- Sarole
- Škotsko višinsko govedo

Register pasem

Belokranjska pramenka

POSLUŽBA

- Pasma splošno
- Fotografije
- Imena pasme
- Uporaba
- Ocena ogroženosti
- Izvor in razvoj pasme
- Rejski program
- Zootehniška ocena in ukrepi
- Ocena posebne genetske vrednosti za ohranjanje ŽGV
- Velikost populacije
- Genetska banka

Pasma splošno

Ime pasme: belokranjska pramenka

Skupna pasma: ovčarstva

Pasma v rejli tudi izven Slovenije: ne

Fotografije




Foto: Viki Berar Foto: Viki Berar Foto: Viki Berar

year	Status global	Status national	Risk based on:			Geo distribution	ΔF
			Reproductive capacity	Trend and % purebred			
2024		1	2	2	1	1	
2025		1	2	2	1	1	

National monitoring

- Livestock Farming Act (2002) its basis in Agricultural Law.
- Rules on the conservation of livestock biodiversity (2004&2014)
- National program for AnGR conservation



REPUBLIC OF SLOVENIA
MINISTRY OF AGRICULTURE,
FORESTRY AND FOOD



Breed data sheet

Population data

Year	2023	2024	2025
Last update	07/02/2024	17/2/2025	4/2/2026
Population Min / Max	6321 / 6321	6725 / 6725	7145 / 7145
Trend	Increasing	Increasing	-
Based on	Census at breed level	Census at breed level	Census at breed level
Breeding Males / Females	103 / 2979	127 / 3244	115 / 4196
Females registered in herdbooks	2979	3244	3471
Females bred pure	80	80	80
Herds	-	-	-
Herd size (avg)	-	-	-
AI used	Yes	Yes	Yes
Males in AI	-	-	-
In situ conservation programmes	Yes	Yes	Yes
Reliability	Very reliable	Very reliable	Very reliable

Year to which data on population size and structure refers. Please try to **enter data** for population size and structure **annually** or bi-annually to enable analysis of dynamic trends in breed populations and reliable estimation of the risk status of the breed population. This information should also be provided for breed populations that are already extinct. This enables better understanding of reasons for extinctions. In this case please enter the year of extinction if known. In case where the year of extinction is not known please enter 0. The total population size should be entered as: 0.

The population size of a breed is **the most important** piece of **information** to be entered in the database since it indicates the risk status of the population. The total population size should **include all animals in the population structure** including **young animals and cross-breeds**. If the exact population size is known you may enter it as lower and upper value. If the exact population size is not known please provide a **reasonable guess**. In this case provide a range and state that the total population is between the lower and the upper value of the range. For the year of extinction please enter 0 as lower and upper range of the total population size.

Enter the trend of the total population size in the respective year by selecting from the list below: • Increasing • Stable • Decreasing

- census at species level -> **the proportion of the total population**
- census at breed level -> population figures were obtained by **breed in a regular census**.
- survey at species level -> **survey carried out at species level** from which breed population sizes were obtained. **Data extrapolation is needed**
- survey at breed level -> survey on **certain area only to estimate the population size of the breed**
- **estimate** the population size is not really known but can be figured out on the basis of experience or last census

Breeding males

Number of **breeding males of reproductive age, not necessarily used for breeding**. Please note that the 'Total population size (lower value of range)' must not be lower than the number of breeding animals (males+females). Please also note that if this value is put to zero, the national breed population is considered as extinct (if unknown please leave empty).

Breeding females

Number of **breeding females in age of reproduction**, not necessarily used for breeding. Please note that the 'Total population size (lower value of range)' must not be lower than the number of breeding animals (males+females). Please also note that if this value is put to zero, the national breed population is considered as extinct (if unknown please leave empty).

Females registered in herdbooks

Please enter the **number of females used for breeding and registered in herd book, studbook** or similar registry. Please note that the number of females registered has to be lower or equal to the number of breeding females.

Females bred pure

Percentage of females that are used for breeding and mated to sires of the same breed population.

Herds

Enter the number of all herds/flocks.

Males in AI

Enter the number of males used in artificial insemination.

Population warning system explanation

Please provide here an explanation of the regularity of the minimum (and/or maximum) population values

Reliability

Indicate the reliability of the demographic data (population size, number of females, males, etc..) from the list down below: • very reliable • reliable • not reliable. The assessment of the reliability of the demographic data may be subjective. Reliability depends to a large extent on the methods used in obtaining the demographic data. For example, if an estimate for a small population of about 100 animals is based on a representative sample the estimation might be quite “reliable” while figures obtained from badly conducted large censuses or surveys may be considered “not reliable”.

- The term ‘breeding animal’ or ‘purebred breeding animal’ **should not be understood as only covering animals which still possess their reproductive function.**

Indeed, castrated animals might contribute with their genealogical and zootechnical records to the assessment of the genetic quality of the breeding population and thus to the integrity of the rankings of breeding animals based on those results. Depending on the objectives of the breeding programme, a lack of or loss of data resulting from the explicit exclusion of castrated animals from entry in a breeding book or register would be likely to bias the results of the assessment of the genetic quality of breeding animals that are genetically related to those castrated animals.

- “**purebred breeding animal**” means any animal of the bovine, porcine, ovine, caprine or equine **species entered or registered and eligible for entry in a breeding book** kept by a breed society, whose parents and grandparents are entered or registered in breeding books of the same breed;

- ‘**purebred breeding animal**’ means an animal which is **entered or registered** and eligible for entry in the **main section of a breeding book**;

Officially approved breeding organizations Kmetijski inštitut Slovenije

(Animal Breeding Regulation 2016/1012)

- The purpose of the **herdbook**: traceability of purebred animals for animal breeding.
- Breed is confirmed through pedigree and/or genetic analysis.



Department for Animal Identification and Registration and Information Systems (SIRIS)

at the Ministry of Agriculture, Forestry and Food



(Article 113 of the Animal Health Law; Commission Implementing Regulation (EU) 2021/520)

- The purpose of the **central register**: traceability of the animals to prevent and control diseases.
- Information about breed is **not reliable and is noted as breed type**.



The percentage of animals included in breeding programmes varies by breeds.

Population size



Jezerško—Solčava sheep

Improved Jezerško—Solčava sheep

Bovec sheep



Herdbook

6.344 animals
19.2%

6.017 animals
22.4%

3.002 animals
92.0%

Central register



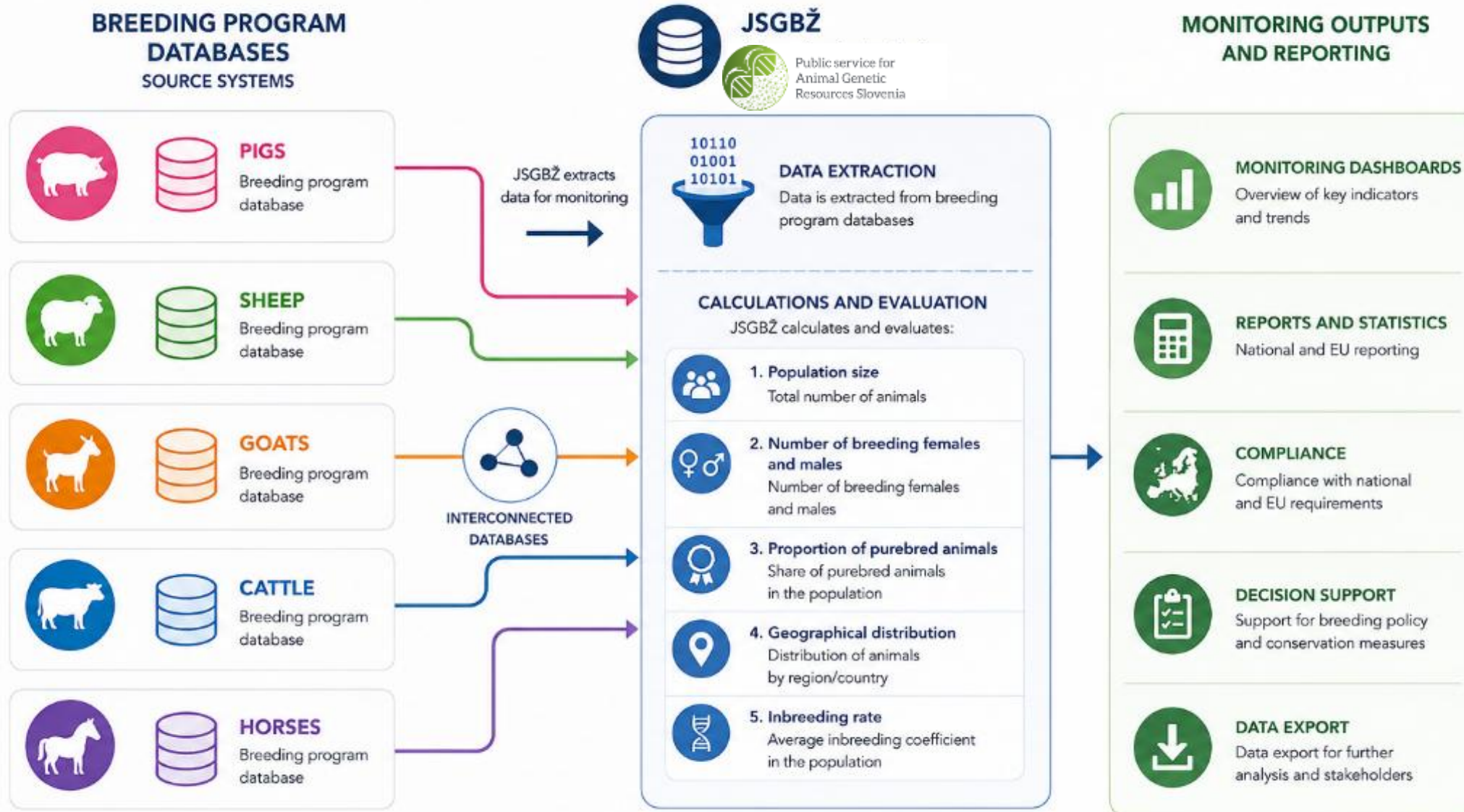
33.079 animals

26.873 animals

3.263 animals

Animal Breeding Regulation 2016/1012:

‘purebred breeding animal’ means an animal which is **entered** or **registered** and eligible for entry in the **main section of a breeding book**;



- DAD-IS
- Importance of regulations – consistency of monitoring
- Data providers
- Practice / protocols:
 - Species
 - Breeds
 - Breeding organizations
- Gap between FAO and Animal Breeding Regulation 2016/1012




WORKSHOP PROCESS

1 PLEASE COMPLETE THE QUESTIONNAIRE



2 WORK IN 4 GROUPS – WORKSHOP

You will be divided into four groups.
Work together to discuss and propose solutions.



QUESTIONNAIRE

Your answers will help us prepare and guide the group work more effectively.

GROUP 1




Data sources and access

Identify data sources, assess their availability and access, and discuss related challenges.




GROUP 2




Defining population size

Discuss and agree on approaches and methods for defining the size of the target population.




GROUP 3



Monitoring indicators and calculations

Define key indicators and agree on calculation methods and data requirements.




GROUP 4



Practical implementation and lessons learned

Share practical experiences, identify lessons learned, and discuss how to apply them in practice.



Let's work together to find the best solutions and make an impact!

