

REGULATION ON CONSERVATION OF FARM ANIMAL GENETIC RESOURCES

Having regard to paragraph 4 of Article 24, paragraph 4 of Article 41, of paragraph 3 of Article 66, of paragraph 5 of Article 68, of paragraph 2 of Article 69 of the Animal Breeding Act (Official Journal of the Republic of Slovenia, No 18/02, 110/02 – ZUreP- 1, 110/02 – ZGO- 1 and 45/04 – ZdZPKG) the Ministry of Agriculture, Forestry and Food has adopted this regulation

REGULATION on conservation of farm animal genetic resources

I. GENERAL PROVISIONS

Article 1

(Contents of the regulation)

These regulation pursuant to the Council Regulation (EC) No 870/2004 of 24 April 2004 establishing a Community programme on the conservation, characterisation, collection and utilisation of genetic resources in agriculture and repealing Regulation (EC) No 1467/94 (Official Journal L, No 162 of April 30 2004, p. 18) shall bring into the force systematic procedures for monitoring and analysing of the state of biodiversity of farm animal genetic resources, arrangements for implementing monitoring, and international cooperation in the farm animal genetic resources and conservation, and the conditions for establishment and operation of gene banks, and tasks of animal genetic resources gene banks in conservation of farm animal genetic resources outside the original environment (hereinafter referred to as: ex situ conservation), as well as within the original environment (hereinafter referred to as: in situ conservation).

(2) The rules shall also govern the contents and methods of keeping the register of the state of the breeds, procedures for determination of a degree of breed endangerment, and the state of utilisation of breeds, methods of conducting the programme of conservation of farm animal genetic resources regarding education, training, and raising of public awareness, monitoring and assessing genetic variability, providing and maintaining genetic reserves on the basis of zootechnical and molecular genetic characterisation of breeds and lines of farm animals, monitoring and assessing the level of inbreeding and the level of relationship, procedures for estimating, determining, providing and maintaining of genetic reserves by the respective types of breeding material, more specific conditions for recognition and examination of new breeds and lines of farm animals, and for the trade with breeding material of indigenous breeds of farm animals, conditions and the methods for conservation and rearing of Slovenian indigenous breeds, and methods for providing funds for conservation of biodiversity and genetic reserves in animal husbandry.

Article 2

(Definitions of terms)

For the purpose of this Regulation the following definitions shall apply:

- Actual population size means the number of all animals in a population of the same breed.
- Basic population means a geographically restricted group of individual animals of the same species or breed which is genetically uniform and represents the initial breeding animals.
- Biological characteristics of breeds or lines means the data for assessing a breed or a line on the basis of fertility, resistance, vitality, growth rate, body conformation, and production.
- Breed improvement means systematic improvement of specific characteristics of a breed.
- Breed means a group of animals being isolated by a region or other geographic pattern, having the same ancestors, and being linked by the characteristics defined by the breed standard; breeds are classified into locally adapted (indigenous, traditional) and foreign breeds.
- Breed recovery means a planned selection of breeding stock that possesses characteristics of the old breed, and exclusion of animals with other characteristics.
- Breed refreshment means a controlled input of genes from other populations of the same or related breeds.
- Breed standard is a zootechnical standard that comprises the description of provenance and development of a breed, description of appearance/exterior of a breed, body measurements, morphological and biological characteristics, and data on the principal economic traits.
- Closed population means a population of animals that reproduce only among themselves, and into which no foreign (external) genetic material has been introduced.
- Conservation of genetic variability means systematic implementation of breeding and selection activities and procedures which maintain diversity of genomes.
- Conservation programme for farm animal genetic resources means a long term programme of measures which ensure protecting and maintaining of a particular species, breed or line of farm animals in the Republic of Slovenia.
- Degree of breed endangerment is determined on the basis of the level of endangerment by a method pursuant to the present Regulation and is scientifically verifiable.
- Degree of relationship (relationship coefficient) means the probability of two homologous genes (i.e. randomly selected genes on the same locus) being identical in such two animals that are being assessed for the degree of relationship.
- Effective population size means the average number of such animals in a given population which contribute genes to the next generation. Number of male animals is a limiting or critical factor in farm animals. Also, certain populations are subject to cyclical variations with regard to the population size, usually on account of many different factors. In such a case the effective size shall be represented by the least animals in the cycle.
- Ex situ conservation means conservation of farm animal genetic resources in a living animal (hereinafter referred to as: in vivo), or in genetic material of an animal (hereinafter referred to as: in vitro) outside the original environment.
- Farm animal genetic resources are part of biodiversity of living organisms relating to all species, breeds, and lines of farm animals from the Paragraph 2 and 3 of the Article 1 of the Livestock Breeding Act (Official Journal of the Republic of Slovenia, No 18/02, 110/02 - ZUreP- 1, 110/02 - ZGO- 1 and 45/04 - ZdZPKG; (hereinafter referred to as: Act), that are bred in the Republic of Slovenia with a view to producing foods of animal origin and for the purposes of agricultural practice.
- Farm animal genetic resources means all species, breeds, lines of farm animals essential for production of animal products and for agricultural practice.
- Foreign-born breeds mean animals that had been developed elsewhere and have not yet adapted to the climatic or other conditions in Slovenia, or have not been under breeding and

selection control for at least fifty years (horses, asses, cattle), or thirty years for other species.

- Genetic distance means a criterion for the distance of populations or two species on the basis of allelic replacements at different loci that occurred during the course of separate evolution.

- Genetic material means animals, semen, ova, embryos and other genetic materials which serve as storage of genetic information of breeding animals.

- Heterozygosity means a probability of an individual animal being heterozygous at a given locus or group of loci in multilocus systems.

- Homozygosity means alleles being identical at one or several loci on homologous chromosomes.

- In situ conservation means in vivo conservation of farm animal genetic resources in the indigenous environment and evolution of the particular traits.

- Inbreeding depression means decline in vitality, ability, resistance, growth, survival capacity, fertility and other traits in offspring generations as a result of inbreeding.

- Inbreeding means mating of related animals.

- Level of inbreeding (inbreeding coefficient) means the criterion for the level of breeding among the relatives of an animal or population which is expressed by the probability of two genes of the same locus being identical by provenance, this meaning that the homozygosity of a pair of genes is owing to common ancestors.

- Line means a homozygous group of animals which is phenotypically different from other individuals of the same breed or species.

- Locally adapted breeds mean breeds of farm animals reared in a specific geographic area, adapted to the climate, forage, structure, land configuration; these breeds are classified into indigenous and traditional.

- Molecular- genetic characterization means the description of genetic traits and properties of breeds

- Qualitative properties mean such properties as defined by smaller number of genes and which are usually discontinued.

- Quantitative properties mean such properties as inherited in accordance with the principles of quantitative genetics. These properties include the majority of economically important traits of farm animals and possess characteristics of variability.

- Register of breeds means a database which contains all essential genealogic, morphologic, breeding, and selection data on a breed.

- Traditional breeds mean breeds of farm animals adapted to climatic or other conditions of a given geographic area. In the Republic of Slovenia the traditional breeds include those that have been under breeding and selection control for at least fifty years (horses, asses, cattle), or thirty years for other species.

- Traditional technology of rearing means the technology of a specific species or breed of farm animals used in the original environment of the formation of an indigenous or traditional breeds, as well as all sustainable breeding practices.

- Zootechnical assessment of a breed represents an expert assessment of a breed along with proposals for breeding and selection measures for conservation of a specific breed.

- Zootechnical characterization means a synonym for breed standard.

II. BIODIVERSITY OF FARM ANIMAL GENETIC RESOURCES

Article 3

(Significance of farm animal genetic resources)

Biodiversity of farm animal genetic resources is essential for food production of animal origin, for conservation of landscape diversity, as a source of income to farmers, and an important part of natural and cultural heritage.

Article 4

(Register of breeds with a zootechnical assessment)

(1) The Ministry competent for animal husbandry (hereinafter referred to as: the Ministry) shall provide for regular and constant monitoring of biodiversity for farm animals. To this end a register of breeds with a zootechnical estimation (hereinafter referred to as: Register) shall be kept and filled out every year in the month of December. Register shall be managed by an Organisation appointed as a public-service gene-bank for animal husbandry (hereinafter referred to as: Organisation)

(2) The Register by breeds and species shall contain, along with a code legend and code system, the data presented in Appendix 1 which shall be an integral part of the Rules.

(3) The data for keeping the Register shall be obtained from:

- providers of public services in the domain of professional tasks in animal husbandry,
- services for identification and registration - SIR (cattle, small ruminants /sheep and goats/, pigs) in the scope of the Ministry
- Statistical Office of the Republic of Slovenia - SURS
- other databases.

Article 5

(Degree of breed endangerment)

(1) Established on the data in the Register, the Organisation shall assess once a year the degree of breed endangerment for each breed. The number of herdbook-registered purebred females shall serve as a basis for assessment of breeds, according to the Table in the Appendix 2 which shall be a component of the Rules.

(2) For the breeds which exists also outside the Republic of Slovenia the degree of breed endangerment shall be separately assessed both by way of the number of purebred females in Slovenia as well as on the basis of the total number of purebred females (in the Republic of Slovenia and in other countries).

(3) The assessment of the degree of breed endangerment shall also include a note on the number of doses of frozen semen.

Article 6

(State of use of a breed)

(1) The Organisation shall, once a year, assess a level of usage of a breed, based on gene percentage of each specific breed in the total population of a given species. On the basis of the assessment the breed shall be divided in the following classes:

- widely used - gene percentage of each respective breed in the total population of the species is more than 30%,
- local - gene percentage of each respective breed in the total population of the species is between 5 and 30%,
- the second level of usage - gene percentage of each respective breed in the total population of the species is less than 5%.

(2) Percentage of genes for each respective breed shall be determined on the basis of the structure of mating (purebred, crossbred), and of the Register.

Article 7

(Programme for conservation of farm animal genetic resources)

The Organisation shall lay professional foundations for the programme for conservation of farm animal genetic resources (hereinafter referred to as: Programmes), on the basis of the adopted and certified breeding programmes that have been included in the joint basic breeding programme (hereinafter referred to as: STRP), and other certified breeding programmes, and the data from the Register. The foundations shall comprise programmes of activities by respective years and by the total period of the validity of the Programme. The Organisation shall take account of the Strategy of biodiversity in the Republic of Slovenia, the Slovenian Agri-Environmental Programme, and long-term as well as short-term programmes of advances in animal husbandry in the Republic of Slovenia, legislation regarding biodiversity presently in force both in the European Union and the Republic of Slovenia, and the programme of the European Union: (Biodiversity Action Plan For Agriculture, programme FAO), and especially the State of World Animal Genetic Resources: SoW - AnGR, and international agreements adopted by the Commission on Genetic Resources for Food and Agriculture: CGRFA.

(2) Pursuant to the regulations, the programme shall define both for species and breeds in whole as well as by the specific species and breed:

- monitoring, systematic surveys and analysis of the state of farm animal biodiversity includes for all respective breeds the basic data on animal population, territorial distribution, rearing objectives and methods, application of animal production and determining state thereof, the degree of risk to a breed, and possibilities for conservation of the minimum number of animals, doses of semen, and embryos pursuant to the breeding programmes;
- contents and modes of implementation of monitoring;
- time scope of monitoring;
- professional zootechnical and molecular-genetic activities;
- genetic variability and genetic reserves;
- the endangered Slovenian indigenous and traditional breeds of farm animals shall be give a special priority in further tracking of remnants of these breeds and providing breeding material;
- research, education, training, and raising public awareness and promotion in the field of conservation of livestock biodiversity;
- measures for conservation of farm animal biodiversity.

(3) Proposal of measures as regards the method of conservation of breeds both ex situ and in vivo (natural parks, farms, school and research farms) shall be defined by the Organisation, also with regard to the ethnological, cultural, historic and environmental role of breeds of farm animals.

(4) Programme proposal shall be prepared by the husbandry Organisations. Expert opinion shall be provided by the Animal husbandry Council prior to the decision by the Minister competent for animal husbandry (hereinafter referred to as: Minister).

(5) Programme shall be published by the Minister on the official Web page of the Ministry, or in some other publicly accessible way.

Article 8

(Continuous breeding measures for conservation of farm animals biodiversity)

Organisation shall implement continuous breeding measures for conservation of biodiversity of farm animals on the basis of the adoption of the programme from the preceding article.

Article 9

(Information system and farm animals biodiversity)

In order to monitor farm animals biodiversity a uniform information system shall be set up in the Republic of Slovenia. The system must be scientifically comparable to other systems of the kind and adapted to the needs in the Republic of Slovenia. Databases by respective breeds and species shall be established and shall serve as a source of data for implementation of the provisions from these Rules and European Union regulations, and as a mode of cooperation with other, especially international databases in the field of farm animal biodiversity. The Information System shall be managed by the Organisation.

Article 10

(Cooperation in international farm animal genetic resources databases)

The Organisation shall cooperate in the framework of international databases, and provide for accuracy and regular updating of Slovenian data.

Article 11

(Education and training in the field of conservation of farm animal genetic resources)

The Programme from the Article 7 of the Rules shall define according to regulation the management of education and training regarding farm animal genetic resources at agricultural secondary schools, institutions of higher education, colleges, undergraduate or postgraduate studies at the departments of the Biotechnical Faculty - either as a special course or directly as a part of other subjects within the zootechnical curriculum.

Article 12

(Raising public awareness and early warning on the state and significance of conservation of farm animal genetic resources)

In order to promote awareness and early warning of the public, the Ministry shall, along with the Organisation, publish yearly data on significance and the state of conservation farm animal genetic resources.

Article 13

(International cooperation in the field of farm animal genetic resources)

The Ministry and the Organisation shall cooperate with international Organisations in the field of farm animal genetic resources, especially with the Commission on Genetic Resources for Food and Agriculture (at the FAO).

Article 14

(Cooperation with the European Union member states in the field of farm animal genetic resources)

Pursuant to regulations of the European Union The Ministry and the Organisation shall cooperate with other European Union member states in the following activities:

- exchange of information on national programme and implementation of conservation of farm animal genetic resources,

- coordination of the programmes at the level of the European Union,
- continuous monitoring and evaluation of European animal genetic resources,
- coordination of the measures for conservation, description, collection, and utilisation of animal genetic resources by way of methods in situ, ex situ, and by breeding,
- Co-operation in exchange of information, courses, and technical meetings.

II. GENETIC VARIABILITY

Article 15

(Criteria for the estimation of genetic variability within breeds)

(1) Genetic variability shall be considered sufficient if the numbers of animals in a population enable mating of animals that are not related.

(2) The criteria for the estimation of genetic variability within a population shall be as follows:

- the level of inbreeding or degree of relationship between breeding animals,
- inbreeding depression estimated by a regression of production traits with regard to an increased inbreeding by 10%,
- actual and effective population size,
- genetic variance of qualitative traits
- data in the breed register,
- heterozygosity which is estimated on the basis of a frequency of alleles for selection-neutral loci (polymorphic micro satellites, DNA- deoxyribonucleic acid) of sequences, including single nucleotide polymorphisms (SNP).

Article 16

(Monitoring and assessment of genetic variability for individual breeds)

(1) Organisation shall estimate genetic variance of quantitative traits and characteristics on the basis of experimental data, by verified mathematical and scientific methods. Organisation shall take into account of pedigree, level of inbreeding, and molecular information.

(2) For the qualitative traits and characteristics the Organisation shall assess frequency of deviations from breed standard characteristics, and varieties and frequency of alleles which can serve as an additional tool for determination of characteristics of a breed or line. Standard genomic tools shall be used for this purpose.

Article 17

(Monitoring and assessment of inbreeding and degree of relationship for individual breeds)

The basis for inbreeding assessment and degree of relationship is pedigree down to base population. The method of monitoring and assessment shall be laid down by the Organisation.

Article 18

(Verification of pedigree - biochemical and molecular- biological methods)

In order to verify pedigree the Organisation shall employ internationally comparable and established biochemical and molecular- biological methods whereby the specific requirements of a particular population need to be taken into consideration, providing such information is available.

Article 19

(Calculation and determination of genetic reserves by types of genetic material)

- (1) Each generation of breeding animals shall have in the effective population at least 50.
- (2) Reserves of semen of males that ensure reproduction and insemination of females in emergency conditions shall form an integral part of genetic reserves and shall be able to meet the needs for insemination of at least two subsequent generations of females of each specific breed.
- (3) On determining genetic reserves by types of genetic material the Organisation shall consider:
 - effectiveness of storage of genetic material (individual differences between breeding animals shall be taken into account)
 - effectiveness of utilisation of frozen genetic material;
 - actual size and dispersion of population;
 - minimum effective size of population from paragraph 1 of this Article;
 - degree of breed endangerment; each endangered breeding animal in breed or line needs to be replaced by an offspring of the same sex;
 - minimum number of unrelated donor animals (25 male and female animals respectively). In case of an insufficient number all animals shall be used, relatives notwithstanding.
- (4) Genetic material of a breeding animal can be preserved in different forms: animals, semen, oocytes, embryos, somatic cells or DNA (deoxyribonucleic acid). Priority shall be given to recognized methods of conservation.

Article 20

(Ensuring and maintenance of genetic reserves by species, breeds and lines of farm animals)

- (1) At least 25 males and 50 unrelated females shall be provided as genetic reserves.
- (2) Organisation shall ensure the required amount of genetic material to be kept as genetic reserves.
- (3) Storage of genetic reserves shall provide for constant verification of viability. Genetic material needs to be restocked in case of an indication of quality deterioration.
- (4) Genetic reserves of farm animal genetic resources important for agriculture shall be constantly monitored and controlled by the Organisation. Organisation shall prepare at least once a year a report on the state of genetic reserves which shall be decided upon by the Animal Husbandry Council. The Council shall recommend to the Minister the proposals for measures if required.

Article 21

(Programme)

Programme from the Article 7 of this Regulation shall consider all provisions and implementing regulations that govern conservation of breeds and lines. In particular, the system and the plan of mating that permit preserving productive and other characteristics of a breed, keeping inbreeding within a generation at minimum level, preserving heterozygosity, and conserving genetic variability within breeds shall be outlined.

Article 22

(Reconstruction of a breed or line)

- (1) If foreign genetic material has been for any reason introduced into an endangered population and if animals that show characteristics of the original breed still exist an initial group of animals shall be selected and multiplied further. The animals with the

characteristics of the old breed shall be selected from the multiplied population, and the animals with the characteristics of the introduced foreign breed excluded. In small populations the selection shall be conducted mainly with males, by special attention to prevent inbreeding.

(2) Programme shall include mating plan and recovery of a breed.

(3) In a planned refreshing with the help of other related breeds the procedures shall be carried out as specified in the previous paragraphs. As soon as the population sufficiently is multiplied the frequency of genes from the original population will be increased by planned matings.

Article 23

(Breeding programmes for small populations)

(1) Breeding programmes for small populations shall provide in shortest time possible a minimum effective population size of 50 breeding animals. This size shall then be sustained.

(2) In order to sustain a suitable effective population size the following shall be necessary:

- a uniform ratio between the sexes,
- a uniform family size,
- standardisation of duration of utilisation of breeding animals,
- keeping the original unrelated lines in each generation,
- control of inbreeding and homozygosity.

(3) Breeding programmes for small populations shall include a plan for providing and maintenance of a suitable population size, and methods for prevention of inbreeding and representation of original lines.

IV. RECOGNITION OF NEW BREEDS AND LINES OF FARM ANIMALS

Article 24

(Requirements for recognition of new breeds and lines of farm animals)

The following requirements for the recognition of new breeds and lines of farm animals shall be met:

- production traits and characteristics of breeds and lines shall not change significantly during at least three successive generations.
- animals shall have a uniform appearance, which is heritable, and distincts the breed from other breeds or lines within the species.
- animals shall be geographically specified and restricted.
- animals shall be adapted to the breeding conditions of a geographical area.
- significant genetic distance shall separate these animals from other related breeds and lines,
- population size shall provide for at least 50 animals.

Article 25

(Verification of new breeds and lines of farm animals)

The following tests shall be conducted for the purposes of verification of new breeds and lines of farm animals:

- comparative analysis of body conformation, body mass and shape (morphology), and characteristics in at least three successive generations,
- analysis of production traits (level, progress, variability),

- examination of adaptation to the environment, climatic factors, and seasonal extremes (incidence of diseases and susceptibility, morbidity, reduced productivity, etc.)
- biochemical and immunological differences of proteins, e.g. in milk or blood,
- molecular-method identification of characteristic allele variants of breeds and lines.

Article 26

(Zootechnical characterisation of new breeds and lines of farm animals)

Description of breed shall include body measurements, body weight, description, morphology, and other body characteristics, production traits (fertility, fattening and carcass traits, milk production traits, wool and fur quantity or quality, survival ability and lifetime productivity), and adaptation to the environment. The description shall also include habitats, forage, climatic factors, extreme seasonal variations, rearing technologies, and, if known, also historic origins of respective breeds. Further research needs to be carry on to confirm distance or relationship of two populations if the populations display proximity. The description of two respective populations must demonstrate sufficient differences.

Article 27

(Molecular genetic characterisation of new breeds and lines of farm animals)

Molecular genetic characterisation includes the inventory of characteristic alleles for all the loci that have been included in the breed (line) standard. Different types of molecular markers shall be used for this purpose, including microsatellites, mitochondrial DNA, and single nucleotide polymorphisms (SNP). Allele definition must allow repeatability and international comparability of the results of molecular genetic examinations.

Article 28

(Measurement and assessment of production and other traits of new breeds and lines)

Production and other traits, molecular genetic characterisation of new breeds and lines of farm animals from the Articles 24-27 of this Regulation shall be measured and assessed by the competent organisation from the Article 98 of the Act upon request and expenses of the applicants.

Article 29

(Recognition of new breeds and lines of farm animals)

(1) Application for recognition of new breeds and lines of farm animals shall be filed with Ministry by the Organisation pursuant to the Act. The application shall include:

- head office and name of the applicant,
- evidence for compliance with the provisions from Articles 24, 25, 26, and 27 of the Rules,
- evidence for keeping of zootechnical documentation according to the Act and zootechnical regulations for given species,
- estimation of production and other traits shall be drawn up by the Organisation from the Article 98 of the Act. The applicant shall forward the measurements based on the tests carried out for the purposes of a verification of results upon the request of the Organisation.

(2) A new breed or line of farm animals shall be recognised by the Minister on the basis of the opinion of the Animal husbandry Council.

Article 30

(Breeding programme for new breeds and lines)

For recognition of new breed/line, the breeding programme shall be accepted pursuant to the Act and zootechnical regulations for a given species.

V. INDIGENOUS BREEDS OF FARM ANIMALS

Article 31

(*In situ* conservation)

(1) The Organisation shall prepare provisions for the purposes of conservation of indigenous breeds of farm animals (*in situ* conservation), in particular for:

- maintaining of populations of live animals in their natural (original) environment,
- traditional rearing technologies in accordance with sustainable development,
- maintaining the population of sufficient size to allow implementation of rearing measures,
- conditions for implementation of rearing and selection measures,
- research and identification of zootechnical and molecular- biology characterisation of indigenous breeds,
- production and manufacture of traditional animal products.

(2) Measures for conservation of indigenous breeds of farm animals (*in situ* conservation) shall be implemented by the Organisation.

Article 32

(*Ex situ* conservation)

For the purpose of *ex situ* conservation of indigenous breeds of farm animals the Organisation shall prepare requirements for systematic activities ensuring an overview of the minimum reserves of genetic material for each breed of farm animals pursuant to articles 19 and 20 of the Regulation.

Article 33

(Conditions of rearing for indigenous breeds of farm animals)

(1) Indigenous breeds from the Act, and also the breeds that have recently been recognised in accordance the Act shall be preserved in the original environment. Animal rearing methods shall principally follow traditional technologies. Priority shall be assigned to production systems with low inputs.

(2) Breeding which departs from traditional methods shall also be permitted in selection herds and flocks as well as under experimental conditions, provided that they allow a more efficient selection and a more reliable conservation of a particular breed.

Article 34

(Procedure for recognition of new indigenous breeds of farm animals)

In order for a new breed to be recognised as indigenous as laid down in paragraph 68 of the Act the following rearing requirements must be satisfied:

- the breed in question is an traditional one,
- population of the breed has been closed during the last fifty years at least (for cattle, horses, asses), and thirty years for other species,

- a systematic introduction of genes from other breeds into a particular population is permitted only to prevent inbreeding, and is clearly defined in the breeding programme.

Article 35

(Recognition of breeding programme for new indigenous breeds)

In order to be recognised as an indigenous new breed the Recognized Breeding Organisation must apply for recognition of a breeding programme pursuant to the Act and to zootechnical regulations. The application must be accompanied by evidence from Article 29 of the Regulation, and evidence from breed recognition procedure established under Article 34 of the Rules.

Article 36

(Sale of breeding material of indigenous breeds of farm animals)

(1) Programme from the Article 7 of the Regulation determines the procedures for traceability of breeding material in the event of sale of breeding material of indigenous breeds.

(2) The Programme also defines allowed annual maximum volume of sales of breeding material of a specific breed in the gene bank.

Article 37

(Register of indigenous breeds of farm animals)

Register of indigenous breeds of farm animals is an integral part of the breed Register in the Republic of Slovenia from the Article 4 of the Regulation. The Register of indigenous breeds of farm animals shall be managed by the Ministry. The Organisation shall ensure interconnection between the breed register from the Article 4 and the register of indigenous breeds of farm animals.

VI. TRADITIONAL BREEDS

Article 38

(Conditions for recognition of traditional breeds of farm animals)

In order for a breed to be recognised as a traditional breed of farm animals the following requirements must be fulfilled:

- the breed in question is adapted to climatic and other rearing conditions of a specific geographic area in the territory of the Republic of Slovenia.
- animal population shall contain at least 50 animals in the effective population,
- the population in question is a closed one,
- the breed has been proven to exist under continuous breeding and selection control in the Republic of Slovenia during the last fifty years (horses, asses, and cattle), and thirty years for other species.

Article 39

(Recognition of traditional breeds)

Application for recognition of traditional breeds shall be submitted to the Ministry by breeding organization. The application shall enclose:

- head office and name of the applicant,
- evidence for compliance with the provisions from Article 29 of the Regulation,

- evidence for keeping of zootechnical documentation pursuant to the Act and zootechnical regulations for given species,

- expert assessment by the Organisation from the Article 98 of the Act.

(2) A traditional breed shall be recognized by the Minister on the basis of the opinion of the Animal husbandry Council.

VII. GENE BANK OF FARM ANIMAL GENETIC RESOURCES

Article 40

(Scope of conservation of specific indigenous and other breeds in gene bank; in situ conservation)

(1) The main criterion for the determination of capacity of a gene bank (*in situ* conservation) refers to the number of pure-bred breeding females by the respective species classified as endangered (Article 5). The established gene banks shall operate according to programme pursuant to the principles of conservation, protection and characterisation of a breed, and shall be supplied with breeding and selection resources.

(2) The gene bank (*in situ* conservation) shall contain at least the minimum number of females as specified in the class "endangered" by species in the table of the Article 5. The number and the ratio between females and males shall enable mating of non- relatives, or, if this is not possible, ensure the least level of mating between relatives. In gene bank are included all indigenous breeds referred to in the Act and the breeds recognised pursuant to the Act.

(3) The same provisions as established in the previous paragraph shall apply to traditional breeds classified as critical and endangered.

(4) Gene bank shall normally not include foreign-born breeds (in situ conservation); exceptions should apply to the breeds that can not be purchased on veterinary (health status) and zootechnical (inbreeding, etc.) grounds.

(5) Yearly zootechnical assessment of breeds, carried out by the Organisation, shall serve as a basis for a decision about inclusion of a specific breed in gene bank.

Article 41

(Scope of conservation of specific indigenous and other breeds in *ex situ* gene bank)

(1) Gene bank (*ex situ* conservation) in vivo (farms outside the original environment, especially in the protected areas and national parks, school and research farms) shall be established for specific indigenous and other breeds, when the number of breeding animals in gene banks in situ is lower than number of pure-bred breeding females established in Paragraphs 1, 2, and 3 of the preceding Article.

(2) Gene bank (*ex situ* conservation) in vitro shall be established for specific indigenous and other breeds classified as critical or endangered pursuant to the provisions of the Regulation concerning genetic reserves.

IX. FINAL PROVISION

Article 42

(final provision)

This Regulation shall enter into force on the day following its publication in the Official Journal of the Republic of Slovenia.

APPENDIX 1:

REGISTER OF BREEDS WITH A ZOOTECNICAL ASSESSMENT

SPECIES:

BREED:

1.	Year	Explanations, key code (symbols)	
2.	Breed	Name of the breed (agreed and accepted)	
3.	Basic data		
4.	Group of breeds	1 - indigenous, 2 - traditional, 3 - foreign - born	
5.	Breed exist outside Slovenia	1 - yes (which country), 2 - no	
6.	Population assessment of pure-bred animals	Number in December	
7.	Number of pure-bred breeding females in herd book	Number in December	
8.	Number of pure-bred breeding males in herd book	Number in December	
9.	Degree of breed endargement	1 - critical, 2 - endangered, 3 - vulnerable, 4 - at risk, 5 - not endangered.	
10.	State of use	1 - widely used, 2 - local, 3 - other	
11.	Basic data (morphology, basic biology)	Important morphological and biological characteristics	
12.	Genetic distance	Molecular biological assessment of genealogy of breeds	
13.	Breed and crossbreeding assessment	Results for use of breed for pure breeding or crossbreeding (suitable use of breed)	
14.	Gene bank		
15.	In situ		
16.	Number of pure-bred breeding females	Number in December	
17.	Number of pure-bred breeding males	Number in December	

18. Ex situ		
19. Number of pure_bred breeding females	Number in December	
20. Number of pure_bred breeding males	Number in December	
21. Number of doses of frozen semen	Number in December	
22. Number of ova	Number in December	
23. Number of embryos	Number in December	
24. Data in international farm animal genetic resources databases		
25. DAD-IS	1 – recorded, 2 – not recorded	
26. EAAP-AGDB	1 – recorded, 2 - not recorded	
27. OKLAHOMA BREEDS	1 – recorded, 2 - not recorded	
28. Breeding programme		
29. Approved and respected	Date for approval and acceptance from Animal husbandry Council	
30. Breeding goals	The main breeding goals from the breeding programme	
31. Individual identification	1 – identification for selection, 2 – without identification	
32. Measurement of production traits	1 – yes, 2 – no if 1 than: fertility - F, growth and body conformation - GBC, milk production traits - M, layering - L, working ability - WA, other traits - OT (enter)	
33. Assessment of appearance/exterior	1 – assessed, 2 – not assessed	
34. Test of performance	1-performance test at a station 2-performance test on farm 3-progeny test at a station 4-progeny test on farm 5-performance test in abattoir 6 – biological and genetic test 7 – test in laboratories	
35. Breeding value	1 – calculated, 2 – not calculated if 1 than enter included traits	
36. Selection of animals	1 – based on breeding value prediction 2 – without breeding value prediction	
37. Molecular assessment	Traits included in molecular	

		assessment	
38.	Reproduction	Degree of pure breeding mating	
39.	Insemination	1 – use 2 – not in use	
40.	Genetic reserves ex situ	1 - yes (enter the method, how much and number of males) 2 - no	
41.	Transfer of embryos	1 – practical use 2 – not in practical use	
42.	Assessment of special genetic value for conservation of animal genetic resources		
43.	Special characteristics	Traits significant for the breed (breed with larger genetic distance, production quality, functional food...)	
44.	Special adaptability	Ability of breed for rearing under specific condition (define specific environment)	
45.	Risk assessment	Additional assessment of endangerment considering number of pure-breed breeding females, level of use and breed group	
46.	Zootechnical characterization and measures for conservation		
47.	Short-term	Measures which need to be taken immediately in order to preserve the breed - proposal for yearly programme for breed conservation and farm animal genetic resources	
48.	Long-term	Proposal for long term programme for breed conservation and farm animal genetic resources	

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APPENDIX 2:

DEGREE OF BREED ENDARGEMENT (NUMBER OF PURE-BREED BREEDING FEMALES IN HERD BOOK)

DEGREE OF BREED ENDARGEMENT	CATTLE	EQUINES	GOATS AND SHEEP	PIGS	RABBITS	POULTRY
1. CRITICAL	<150	<300	<300	<100	<100	<100
2. ENDANGERED	250	500	500	200	250	250
3. VULNERABLE	450	900	900	300	500	500
4. AT RISK	750	1500	1500	500	1000	1000
5. NOT ENDANGERED	1500	3000	3000	1000	2500	2500