

CONTENTS



1. Introduction	7
1.1. The concept of biodiversity	7
1.2. Forms of biodiversity	9
1.3. The importance of biodiversity	10
1.4. The importance of scientific research for biodiversity	11
1.5. Changes in nature and changes of biodiversity	15
1.6. The productivity of biodiversity	20
1.7. The economic importance of biodiversity	20
1.8. Historical importance of animal genetic resources	22
2. Evolution processes of animal genetic resources	23
3. The animal origin centers	26
4. The wild relatives of domestic animals	27
5. The traits and status of animal genetic resources	30
5.1. Status differences between plant and animal genetic resources	31
6. Biodiversity indicators in animal husbandry	32
7. Sustainable use of animal genetic resources	36
8. Violation of animal genetic resources	37
9. Animal genetic resources and their future	43
9.1. Animal genetic resources, yes or no?	44
9.2. Globalization and animal genetic resources	52
9.3. Climate changes and animal genetic resources	52
9.4. Diseases and natural disasters	54
10. Biotechnology and animal genetic resources	55
10.1. History of animal gene transfer	55
10.2. Methods of creation of transgenic animals	58
10.3. The importance of transgenesis	65
10.3.1. Basic research	65
10.3.2. Biomedical research	65
10.3.3. The source of recombinant proteins	65
10.3.4. Application in agriculture	66
10.3.5. Production of pharmaceutical proteins via the transgenic animals milk	66

10.3.5.1. <i>Humani factor VIII</i>	67
10.3.6. <i>Integration of foreign genes</i>	68
10.4. PCR technique of gene detection	70
10.5. Determination of gene expression (protein synthesis) by Western blot technique method.	74
11. <i>The perspective of animal husbandry in EU</i> <i>in the next 25 years</i>	78
11.1. The importance of breeding and reproduction of domestic animals in Europe	78
11.2. The directions of development of animal genetic resources .	80
11.3. Relevant international organizations and declarations. ...	82
11.3.1. <i>Food and Agriculture organization (FAO)</i>	82
11.3.2. <i>European Association for Animal Production (EAAP)</i>	85
11.3.3. <i>Convention on Biological Diversity - CBD and other</i> <i>international regulations</i>	86
11.3.4. <i>Non-governmental organizations</i>	90
12. <i>Conservation of animal genetic resources</i>	91
12.1. The selection of animals for conservation and genetic resources	92
12.2. Reasons for the conservation of animal genetic resources	92
12.3. Economic goals of genetic resources conservation	94
12.4. Socio-economic goals for genetic resources conservation .	95
12.5. Human health and genetic resources conservation	95
12.6. Performance criteria for genetic resources conservation ..	96
12.7. Agricultural intensification and animal genetic resources conservation	97
12.8. Conservation goals.	98
12.8.1. <i>Preservation of genetic diversity</i>	99
12.8.2. <i>Preservation of gene specificity</i>	99
12.9. Process of conservation	99
12.9.1. <i>Inventory</i>	99
12.9.2. <i>Evaluation</i>	100
12.9.3. <i>Selection of breed</i>	105
12.10. <i>Methods of animal genetic resources conservation</i>	105
12.10.1. <i>In situ method of animal genetic resources conservation</i> .	105

12.10.2. <i>Ex situ conservation methods of animal genetic resources</i>	106
12.11. Preservation and conservation of animal genetic resource in the Republic of Serbia	108
12.11.1. <i>Podolian cow</i>	110
12.11.2. <i>Busha</i>	111
12.11.3. <i>Domestic buffalo</i>	112
12.11.4. <i>Domestic mountain horse</i>	113
12.11.5. <i>Nonius</i>	114
12.11.6. <i>Balkan donkey</i>	115
12.11.7. <i>Mangalica (mangalitsa)</i>	116
12.11.8. <i>Morava pig</i>	118
12.11.9. <i>Resava pig</i>	119
12.11.10. <i>Pramenka sheep</i>	120
12.11.10.1. <i>Pirot strain of Pramenka</i>	121
12.11.10.2. <i>Karakachanska strain of Pramenka</i>	122
12.11.10.3. <i>Bardoka strain of Pramenka</i>	123
12.11.10.4. <i>Svrljig strain of Pramenka</i>	124
12.11.10.5. <i>Krivi Vir strain of Pramenka</i>	125
12.11.10.6. <i>Lipa strain of Pramenka</i>	126
12.11.10.7. <i>Wallachian horn-twisted strain of Pramenka</i>	127
12.11.11. <i>Cigaja sheep</i>	128
12.11.12. <i>Choka Cigaja sheep</i>	129
12.11.13. <i>Balkan goat</i>	130
12.11.14. <i>Svrljig chicken</i>	131
12.11.15. <i>Sombor Kaporka chicken</i>	132
12.11.16. <i>Banat naked-neck chicken</i>	133
12.11.17. <i>Serbian Domestic Turkey</i>	134
12.11.18. <i>Serbian Domestic Goose</i>	135
12.11.19. <i>Domestic Duck</i>	136
13. Agricultural Strategy of the Republic of Serbia and the status of animal genetic resources	137
14. Literature	141
15. List of Abbreviations	162
16. Reviews	163