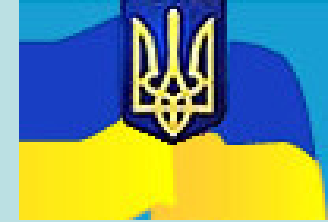


Institutional arrangements for *ex situ* conservation at national level in Ukraine



Institute of Animal Breeding and Genetics
National Academy of Agrarian Science of Ukraine



Programme for research “Gene pool conservation 2011 – 2015” National Academy of Agrarian Science of Ukraine



Bank of Animal Genetic Resources
Institute of Animal Breeding and
Genetics



Bank of Animal Genetic Resources is national heritage.
(Resolution of Cabinet of Ministers of Ukraine, 19.08.2002,
N 472-p.)

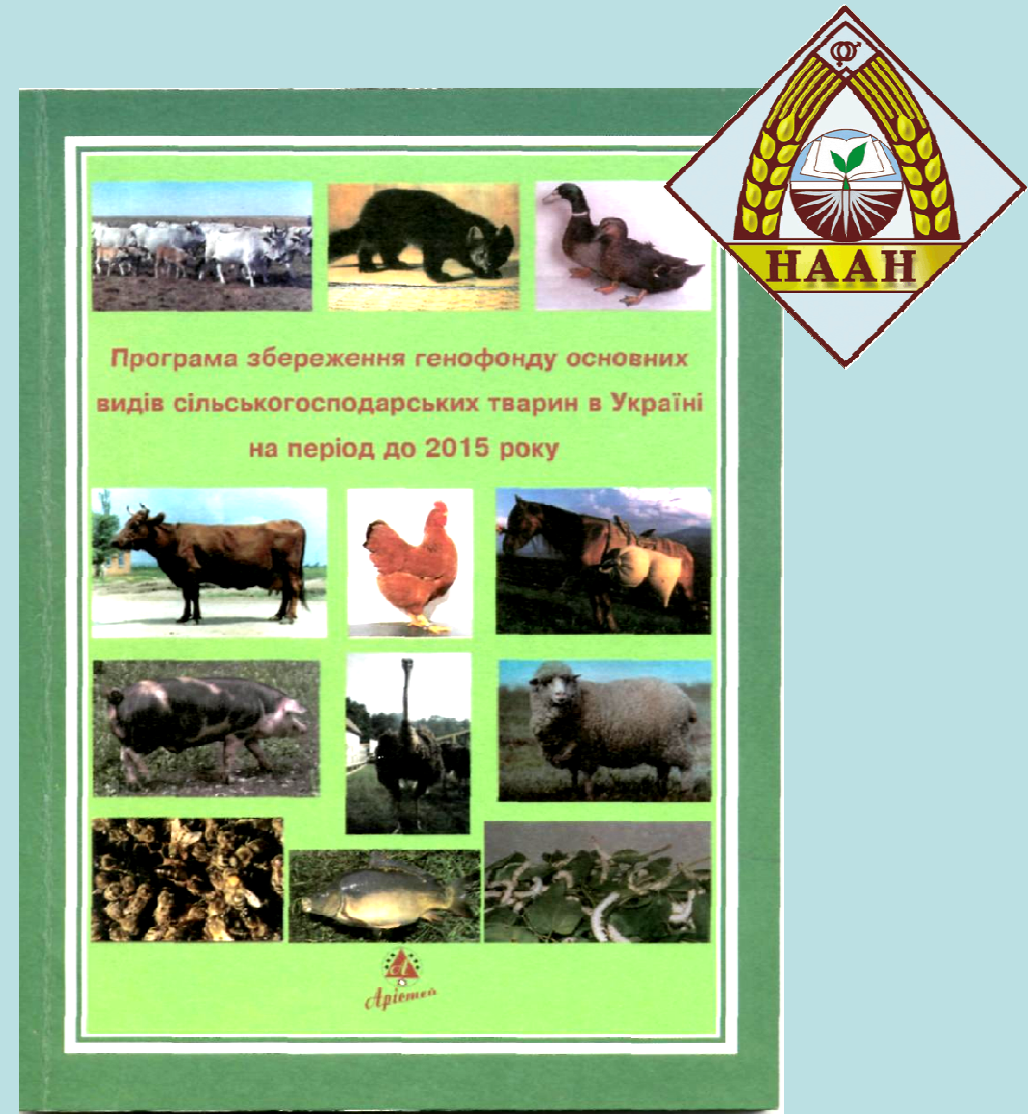


Ministry of Agrarian Policy and Food of Ukraine and National Academy of Agrarian Science of Ukraine

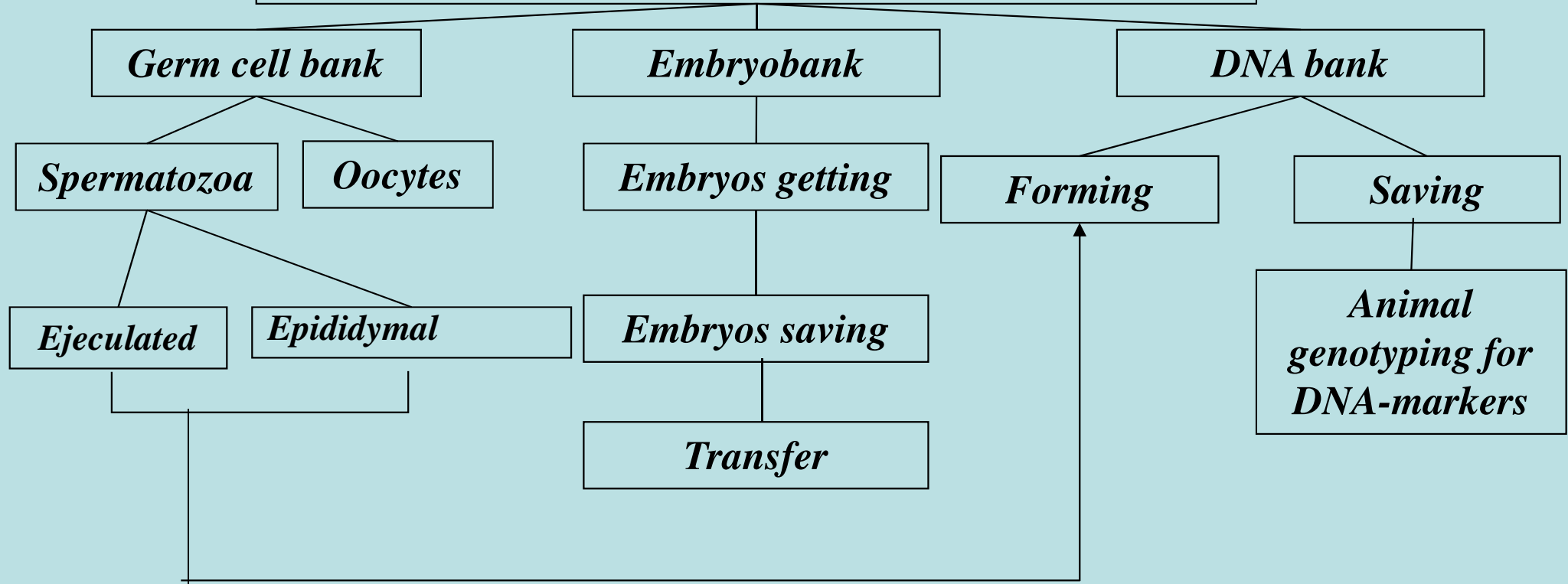
Program of conservation
of gene pool of main
livestock in Ukraine for
period up to 2015

Categories of gene pool objects

- 1 - Native gene pool objects,
which are going to disappear;
- 2 - Native improving breeds;
- 3 - Reserve gene pool of
better foreign improving
breeds



*National heritage of Ukraine
Bank of Animal Genetic Resources*



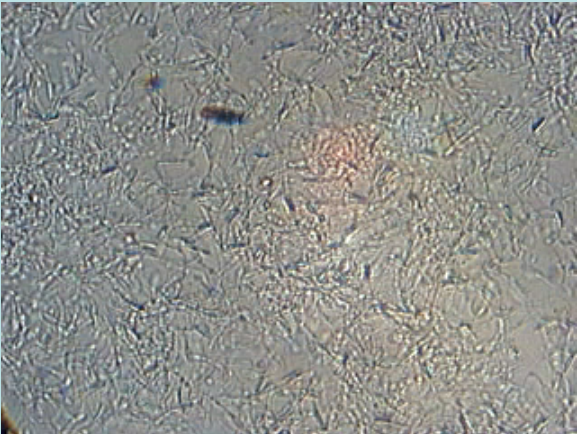
*Stratification of gene poll production and its use
in selection and system of biodiversity system*



Genetic material of Animal Genetic Resources Bank
Institute of Animal Breeding and Genetics

Gene pool material	Animal species	Number of breeds	Number of sires	Number of material (dozes of sperm, embryos, DNA-material)
Spermatozoa	Bovine: <i>Ejaculated</i> <i>Epididymal</i>	26 1	199 2	130 460 160
	Horse: <i>Ejaculated</i>	2	4	35
	Pig: <i>Epididymal</i>	2	2	600
	Fish	1	4	250
Embryos	Bovine	5		350
DNA-material	Bovine	22		1 512
	Horse	8		1 173
	Pig	3		81

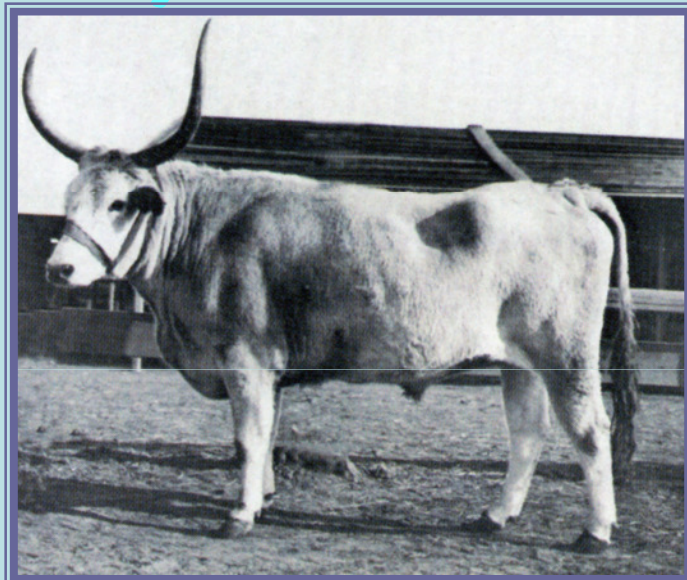
Total: animal species – 4; number of breeds – 31;
number of sires – 209



Indigenous and local breeds

*Сіра
українська*

Grey Ukrainian



*Барвінок 8247
Гігант 5948
Запад 9705
Зеніт 2785
Інжир 7927*

Indigenous and local breeds

Білоголова українська

Whitehead Ukrainian

Злак 673

Лось 987

Неаполь 561

Окунь 787

Орел 235

Сигнал 721

Факел 951

Чубок 221



Indigenous and local breeds

Бура карпатська

Brown Carpathian

Карандаш 515

Каштан 884

Козел 636

Коро 1163

Маховик 2656

Маяк 18834

Метеор 5502

Павлін 3406

Пароль 407

Радист 1307

Рейд 3513

Риск 1435

Сюрприз 8461

Фаянс 7026

Цезарь 8025



Indigenous and local breeds

Лебединська

Lebedyns'ka

Буйний 102

Дикий 7933

Зоркий 9902

Карий 122973

Качур 5296



Native gene pool objects, which are going to disappear

Червона стенова

Red Steppe

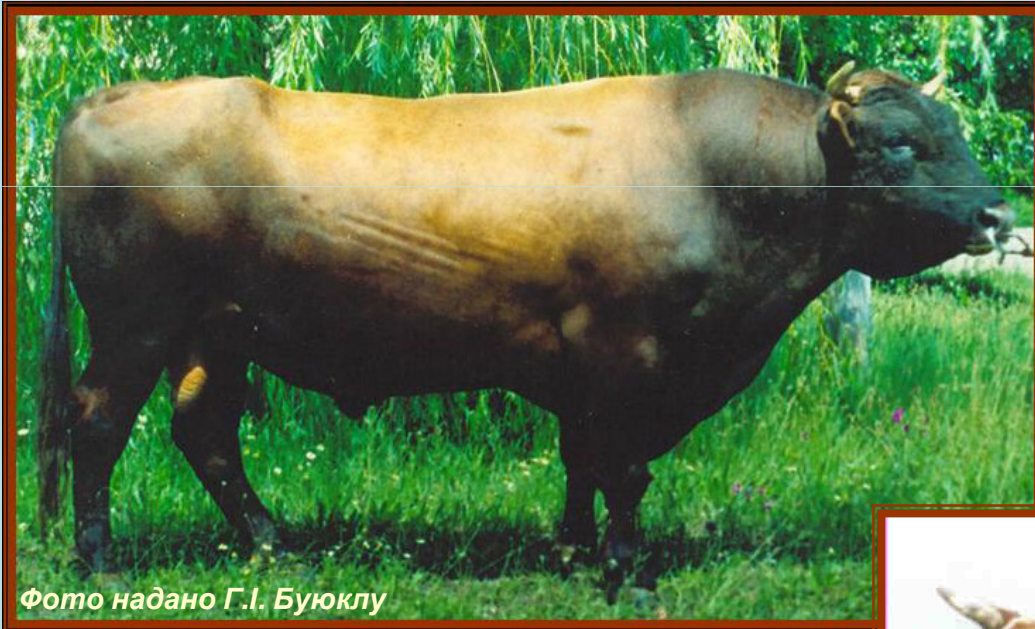


Фото надано Г.І. Буюклу

Тросник 814

Пайрис 1807

Йорш 884



Фото надано Г.І. Буюклу

Domestic new-bred dairy breeds

Українська чорно-ряба

Ukrainian Black and White Dairy *МОЛОЧНА*



Фото В.П. Бурката

Лазар 4401

Міракл 2729

Нектар 7381

Реєстр 250

Розряд 4850

Росток 841

Фантомас 503

Чопорний

Українська червоно-ряба молочна

Ukrainian Red and White Dairy



Фото В.П. Бурката

Арбат 1577
В.Рігел 405635/280
Гектар 3108
Дощик 3792
Зіркий 6924
Казбек 62
Кактус 9681
Кінг 3091
Комар 4700
Май 5573
Маяк 3160/289
Метеор 5416
Норд 3126/285
Пушистий 1395
Рак 38835
Ракурс 136
Річард 1810
Тассо 46768
Факел 6711
Хенк 14030030
Щасливий 1933

Domestic new-bred dairy breeds

Українська червона молочна

Ukrainian Red Dairy

Десятель 326

Дукат 125

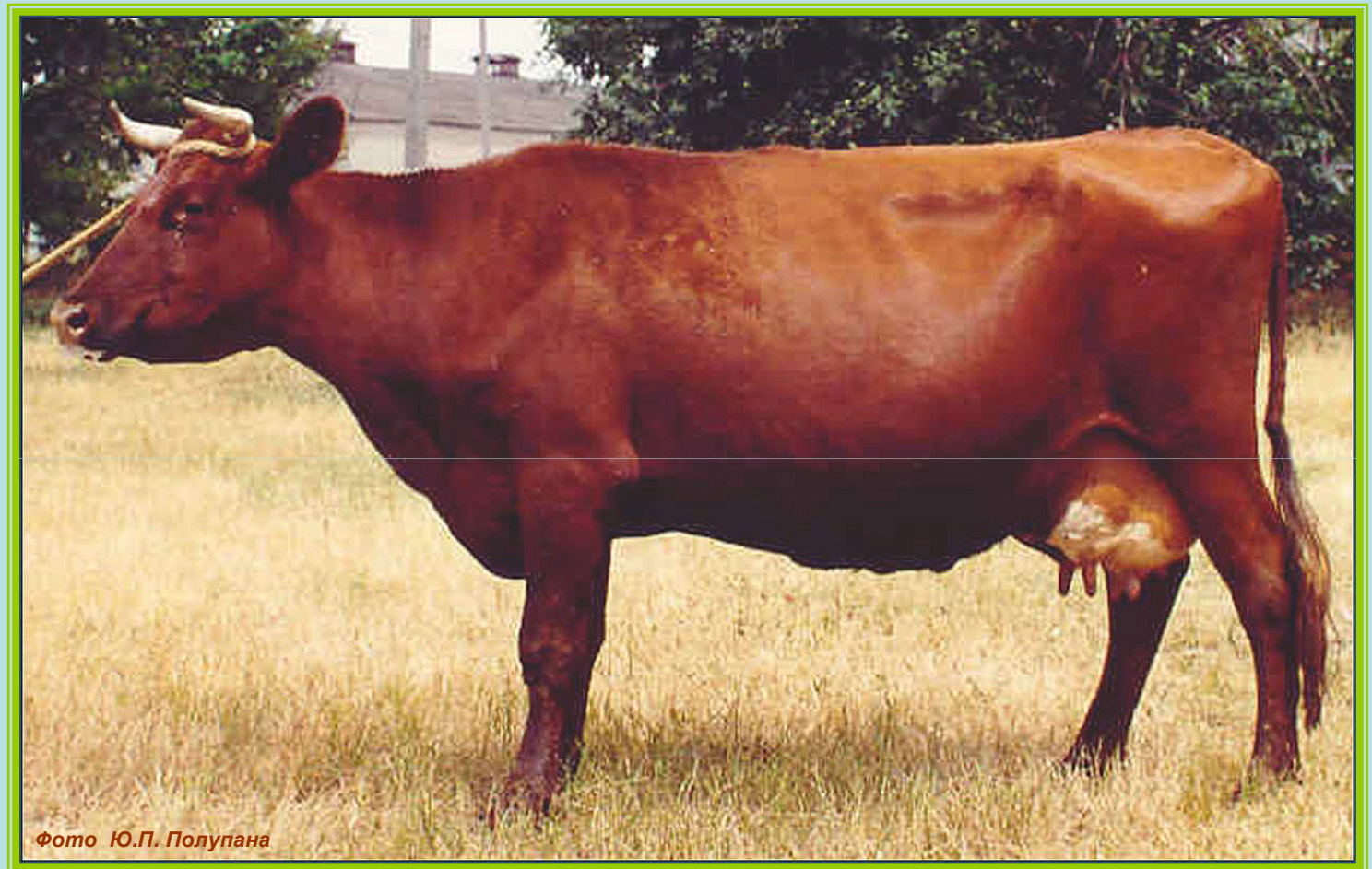
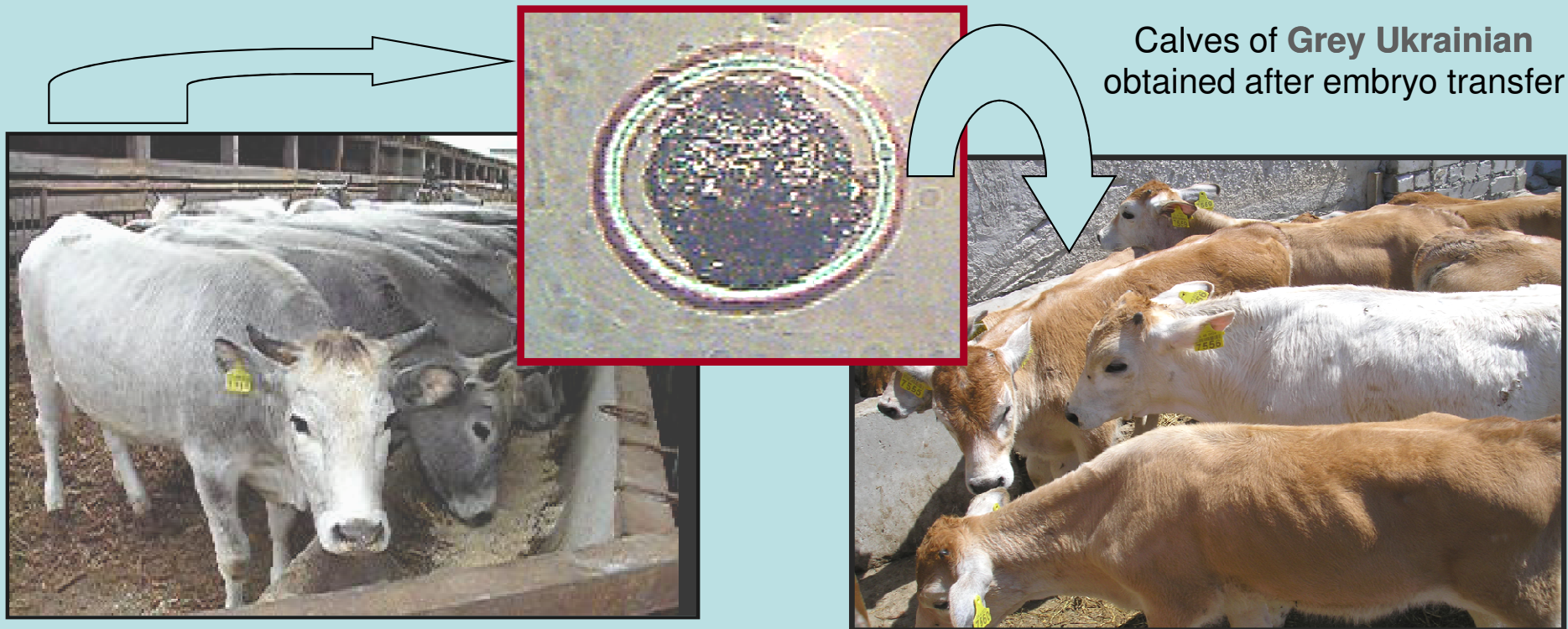


Фото Ю.П. Полупана

Complex analysis of cow-donors embryos productivity in system of conservation and management of animal gene pool (at the example of **Grey Ukrainian cows**)

Total number of donors	Total number of embryos	Suitable number of embryos for transfer, n, %			Level of pregnancy, n, %
		total	morula	blastocyst	
4	36	13 (36,1)	4 (30,8)	9 (69,2)	7 (53,8)





State Agency for Science, Innovation and Informatization of Ukraine

Project to State Target Program of Ukraine "Nanotechnology and Nanomaterials (2010 – 2014)"

Project N DS/496-2011, 29.09.2011

Institute of Animal Breeding and Genetics

National Academy of Agrarian Science of Ukraine

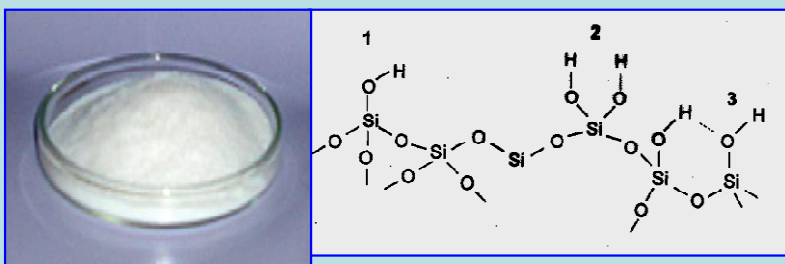
"Development of new technology for long-term storage of animal gene pool using nanomaterials"

Nanomaterials for embriotechnology reproduction system of farm animals

Technology of cryopreservation of gametes, animal embryos, receiving of embryos *in vitro* using nanomaterials which are synthesized with the help of superfine silica and biomolecules

These nanomaterials is effective supplements to standard cryomedium without altering of their basic structure

Nanomaterials optimize cryomedium in technology for long-term storage of gene pool of agricultural animals at cellular level – increase sperm activity in 10 – 20 % and survival time in 3 – 5 hours



Superfine silica and structure of its surface