

The Austrian Programme for the Conservation of Endangered Breeds

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The ÖNGENE is a scientific platform for the conservation of rare and endangered breeds in Austria founded in 1982.

1982 – 1994 – First steps:

- Enquiries about rare breeds
- Conservation activities on private farms
- Conservation programmes in public institutions
- Establishment of gene bank

1995 – 2000

After joining the European Union, the conservation of rare endangered breeds was linked to the ÖPUL – “Austrian Programme for an Environmentally Friendly Agriculture”. Farmers who breed and keep rare endangered breeds in the ÖPUL, get financial support if

- The animals are purebred and registered by an accredited Austrian breeding organisation
- The organisation has confirmed the purebred status
- The mating is assured with purebred and if possible unrelated sires of the same breed

During this time it was possible to stabilize and increase the populations of 20 different rare endangered breeds. But there were few informations about the rate of inbreeding, the effective population size and the increase of inbreeding rate per generation. Therefore the ÖNGENE has developed a new programme for gene conservation approved by European Commission until 2013.

2000 – 2013

- A new list at last of 30 endangered breeds (table 1)
- One responsible breeding organisation for each breed minds all tasks of conservation breeding (table 2)
- All breeding animals and especially all animals of rare breeds are listed in the Austrian Control Data Bases with all known pedigree information
- Implementation of population planning programmes for obligatory planned mating including control of ancestry and for the calculation of special population genetics key data of small endangered populations (table 3)
- Subsidies for breeders of endangered breeds (table 4)

Table 1: The Austrian acknowledged rare endangered breeds

Endangered breeds		Number of Animals			Farms 2007
		1997	2006*	2007*	
Cattle					
The Original Austrian Brown Cattle	2	40	212	349	127
The Original Pinzgau Cattle	1	3624	4616	4943	893
The Tyrolean Grey Cattle	1	3910	3665	4057	1178
The Waldviertel Blond Cattle	2	133	544	648	100
The Carinthian Blond Cattle	2	301	658	683	90
The Tux-Zillertal Cattle	2	180	589	704	188
The Pustertal Spotted Cattle	2		94	169	51
The Murboden Cattle	2	299	1822	2111	343
The Ennstal Pied Cattle	2		75	89	23
Sheep					
The Carinthian Brillen Sheep	2	332	1989	2294	130
The Brown Mountain Sheep	2	176	803	1248	86
The Tyrolean Stone Sheep	1	1732	1953	1939	114
The Krainer Stone Sheep	2	69	375	604	30
The Forest Sheep	2	160	661	663	62
The Alpine Stone Sheep	2		165	192	22
The Montafon Stone Sheep	2		79	70	9
The Hungarian Racka Sheep	2	33	121	222	22
Goats					
The Chamois Alpine Goat	1	566	768	888	88
The Pinzgau Goat	2	70	259	262	39
The Tauern Pied Goat	2	135	271	333	59
The Styrian Pied Goat	2		39	61	10
The Austrian Peacock Goat	1			88	18
The Austrian Striped Goat	2			13	6
Horses					
The Austrian Draught Horse - Noriker	1	2738	2782	2538	1474
The Old Austrian Warmblood Horse	1	18	13	11	6
The Lipitsan Horse	1	66	109	28	26
The Shagya Arabian Horse	1	87	113	87	34
The Huzulen Horse	1		54	60	30
Pigs					
The Mangalitzza Pig	2		101	195	48
The Turopolje Pig	2		46	90	32
total		14.669	22976	25639	5338

* ÖPUL subsidized animals

1 = endangered

2 = highly endangered

Table 2

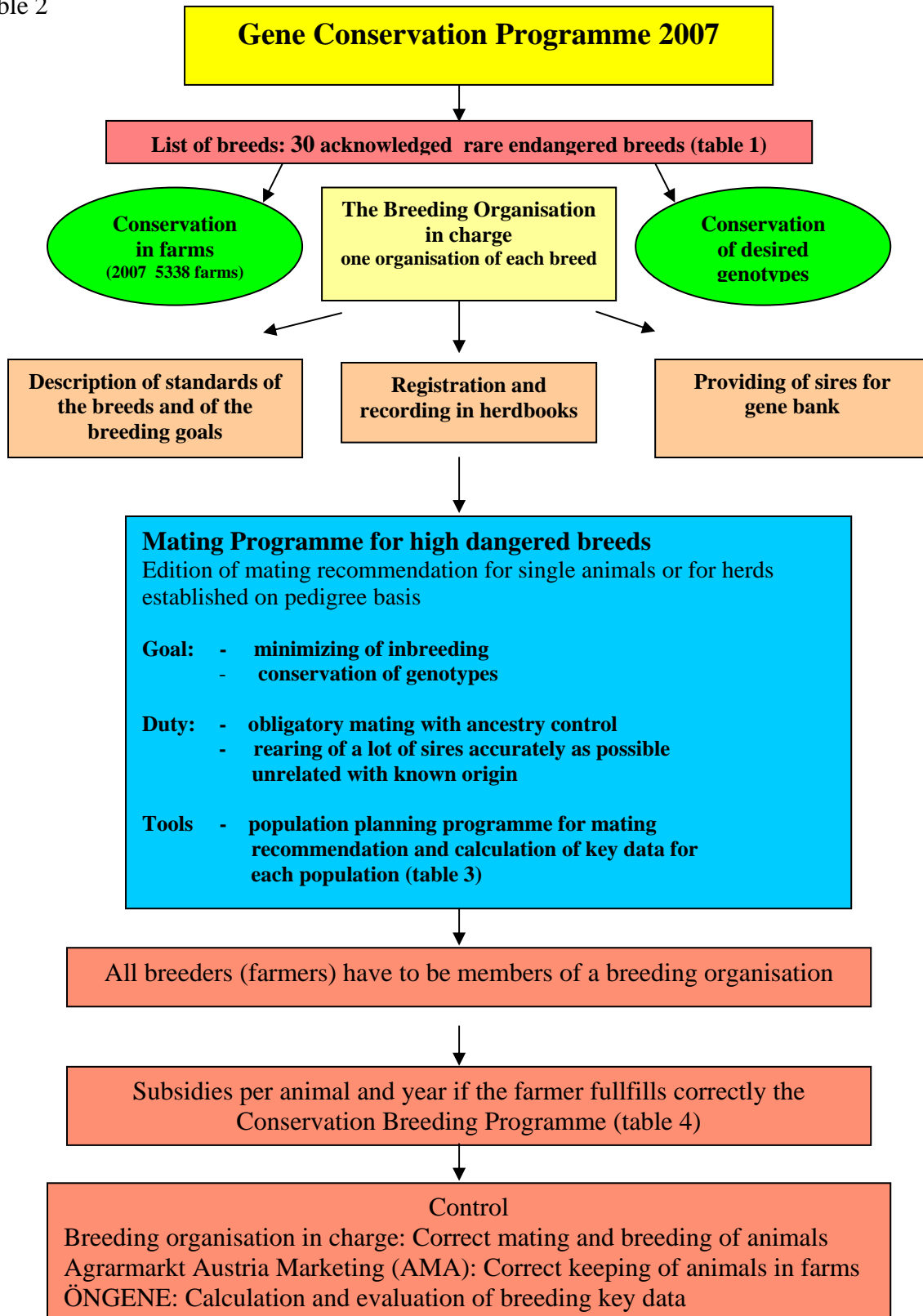


Table 3: Population genetics data for Austrian rare breeds

Breed	N	Ft	fd	N1	fd3	N3	genE	genInt
		%	%		%			years
The Original Austrian Brown Cattle	842	1,6	0,48	104	0,60	83	7,7	7,9
The Waldviertel Blond Cattle	1222	3,2	0,84	60	0,55	91	3,0	6,7
The Carinthian Blond Cattle	1228	1,5	0,30	167	0,31	160	3,3	5,2
The Tux-Zillertal Cattle	1476	3,9	0,87	58	0,50	101	3,9	6,3
The Pustertal Spotted Cattle	348	2,0	0,39	128	0,35	144	3,6	5,0
The Murboden Cattle	3409	1,1	0,14	357	0,32	154	3,5	6,2
The Ennstal Pied Cattle	153	3,4	0,56	89	0,60	83	3,4	5,3
The Carinthian Brillen Sheep	3117	4,0	0,32	156	0,13	390	5,2	3,3
The Brown Mountain Sheep	1752	2,0	0,42	119	0,11	468	3,8	3,7
The Krainer Stone Sheep	698	2,8	0,44	114	0,39	128	3,8	3,9
The Forest Sheep	531	0,8	0,28	179	0,17	298	3,1	3,7
The Tauern Pied Goat	573	8,6	1,31	38	0,21	234	5,8	3,2
The Turopolje Pig	279	14,1	3,70	14	0,95	56	3,1	2,9

N number of calculated animals (reference population)
Ft averaged inbreeding rate of N
fd increase of inbreeding rate between parents of N and N
N1 effective population size calculated by fd
fd3 increase of inbreeding rate calculated from N3
N3 effective population size calculated from really used sires and dams
genE number of complete generations in the pedigrees of N
genInt years average age of parents at the birth of N in years
 Breeds taken into account with genE >3,0

Table 4: Subsidies for farmers per animal and year**Subsidy for endangered populations (table 1, number 1)**

Mare	€	160
Cow	€	140
Ewe, Goat	€	30
Bull, Stallion	€	430
Ram, Buck	€	75

Subsidy for high endangered populations (table 1, number 2)

Cow	€	280
Ewe, Goats	€	55
Sow	€	150
Bull	€	530
Ram, Buck	€	120
Boar	€	300