



The Olkuska sheep - a case study of a successful conservation programme

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A HISTORY OF THE OLKUSKA SHEEP BREED

The Olkuska sheep is the native Polish long-wool breed, traditionally kept in the southern region of the country, near Olkusz and Cracow. The breed was created on the basis of the local primitive long-wool stock, upgraded with Pomeranian sheep since the early 1930s; after the World War II, the Romney Marsh rams were introduced to improve wool yield and wool quality.

Traditionally Olkuska sheep were kept at small private farms, in flocks of a few heads only. In the 1950s Olkuska sheep population accounted for 10.000 heads; since 1960s, the number kept decreasing, reaching only about 200 heads in the early 1980s. Over the next ten years the population size dropped to about 100 ewes; in this critical time flocks belonging to Cracow and Warsaw Agricultural Universities were the ones that ensured the survival of this breed.



Litter of 7 born in 1998 in Mr Korczyński's flock



Year	Public sector		Private sector	
	Number of ewes	Number of flocks	Number of ewes	Number of flocks
1991	33	2	40	5
1992	53	5	8	3
1993	80	6	8	3
1994	71	5	9	3
1995	60	3	11	3
1996	87	3	13	3
Number of ewes			Number of flocks	
1997	58		5	
1998	79		5	
1999	89		5	
2000	101		6	
2003	144		9	
2004	174		11	
Data from the National Research Institute of Animal Production				
2005	198		12	
2006	259		17	
2007	305		19	
2008	456		29	
New flocks enrolled to the programme				
2009	170		16	

Table 1. Population size of Olkuska sheep in 1991-2008 (data from the Central Animal Breeding Office, the Polish Association of Sheep Breeders and the National Research Institute of Animal Production).

OLKUSKA PERFORMANCE

The main feature of the breed is its exceptional prolificacy, well over 200%, with the wide range of litter size, from 1 to 7, resulting from the segregation of a putative major gene increasing ovulation rate.

The high litter size of Olkuska sheep is combined with early pubescence, and a very good maternal ability based on the high milk yield.

CONSERVATION PROGRAMME

Olkuska sheep was included in the conservation programme supported from state budget since 90-thies, but incentives were not sufficient to achieve expected progress.

The introduction of conservation measures for endangered local livestock breeds within agri-environmental programme in 2005 resulted in a renewed interest in native breeds and establishment of a number of new flocks of Olkuska sheep. Since then, the population has been increasing rapidly.

EWES	RAMS							
	OWN FLOCK	FOR SALE FROM ŻELAZNA FLOCK					REPLACEMENT ŻELAZNA	
	1000057 6516-1 2006	755-001 -4403 2004	1000057 6514-7 2006	1000057 6525-3 2006	1000057 6666-3 2007	1000057 6680-9 2007	1000057 6674-8 2007	1000057 6664-9 2007
Ewes born in 2006 – OWN FLOCK								
100005765345	0.1418	0.5534	0.1463	0.4283	0.1896	0.2289	0.1771	0.1896
100005765352	0.1887	0.1787	0.2099	0.1843	0.1482	0.3588	0.2318	0.1482
100005765383	0.1834	0.5686	0.2132	0.3479	0.2181	0.2733	0.1849	0.2181
100005765444	0.1298	0.2990	0.1490	0.2147	0.1726	0.2046	0.2896	0.1726
100005765451	0.1298	0.2990	0.1490	0.2147	0.1726	0.2046	0.2896	0.1726
100005765338	0.1418	0.5534	0.1463	0.4283	0.1896	0.2289	0.1771	0.1896
Ewe-lambs born in 2008 – OWN FLOCK								
100007432115	0.5603	0.3465	0.2445	0.2956	0.1643	0.2051	0.1564	0.1643
100007432177	0.5603	0.3465	0.2445	0.2956	0.1643	0.2051	0.1564	0.1643
100007432160	0.5759	0.3532	0.2759	0.2547	0.1777	0.2262	0.1595	0.1777
100007432153	0.5770	0.1583	0.2729	0.1722	0.1420	0.2664	0.1814	0.1420
Ewe-lambs born in 2008 – from ŻELAZNA FLOCK sold to the breeder								
100007619806	0.1970	0.2580	0.2322	0.2243	0.1625	0.3993	0.2123	0.1625
100007619813	0.1645	0.2970	0.2412	0.2206	0.3598	0.2291	0.2349	0.3598
100007619820	0.1645	0.2970	0.2412	0.2206	0.3598	0.2291	0.2349	0.3598
100007619875	0.1799	0.1675	0.2242	0.1878	0.1558	0.3585	0.1730	0.1558
100007619905	0.1537	0.3636	0.1819	0.5857	0.1812	0.2047	0.2081	0.1812
100007619929	0.1872	0.1930	0.2344	0.1715	0.1614	0.2015	0.1741	0.1614
100007619936	0.1872	0.1930	0.2344	0.1715	0.1614	0.2015	0.1741	0.1614
100007619943	0.2629	0.2110	0.5879	0.2780	0.1633	0.2115	0.2601	0.1633

Table 2. Flock of a private breeder: relationship coefficient of ewes and ewe-lambs with rams offered for sale from Żelazna flock.

SERVICE PROVIDED FOR BREEDERS

As the population of Olkuska sheep went through a prolonged bottle-neck period, there is a need to control inbreeding level and provide breeders with sound and timely advice on exchange of the breeding stock, mainly rams.

Since 2006, the Żelazna flock, belonging to the Warsaw University of Life Sciences is providing breeders willing to purchase their breeding stock with information on relationship of their ewes with rams that are offered for sale. Thanks to the data obtained from the National Research Institute of Animal Production, the pedigree database was created that covers the entire population of the breed.

In future, in cooperation with the Sheep Breeders Association, two other leading flocks, of Cracow Agricultural University, and belonging to the private breeder, Mr Korczyński, should be also able to provide such service.