

BREEDING OF ESTONIAN NATIVE COWS

MSc Käte Kalamees
Estonian Native Cattle Breeders' Society

Estonian Native cattle breed has developed from the local aboriginal herd throughout centuries, but purposeful breeding began in 1909, when newspapers started to publish the writings of Aleksander Lilienblatt. He started the measuring and evaluation of the cows of native cattle and the purposeful selection of bulls. A lot of local specialists were in favour of pure-breeding of native cattle, but as it was difficult to find very good bulls in local herds, better bulls of West-Finnish breed were also bought.

- In autumn 1913, purposeful study of Estonian Native herd began when Prof. J.F. Liskun initiated the measurement of more than 200 cows from native breed and experimental herds were formed.
- In 1914 began the registration of cows from native breed in the herdbook.
- On 20 April 1920, Estonian Native Cattle Breeders' Society was founded, where Peeter Kallit started to work. The breeding goal was a pale red polled herd, of low or medium weight, with strong conformation and longevity, very productive with especially high fat percentage profitable dairy cattle. Bull associations and -stations were founded.
- In 1925 the tradition of competitions between breeding centres was initiated.
- In 1939 there were 59 breeding centres for native cattle: 4 first class, 24 second class and 31 third class.
- Statistics in 1938/39 Estonian milk recording year-book: Estonian Native cattle produced 4.8 kg of milk fat with 100 feed units, surpassing Estonian Red breed by 0.4 kg and Estonian Black-and-White by 0.5 kg.
- In 1947 the breeding society was liquidated and the improvement of Estonian Native cows was to be coordinated by other breeding centres. As it was difficult to realise the meat plan by rearing native cows with small growth, their number decreased.
- In 1956 Jersey bulls Lasse and Abild were imported. They were used extensively as artificial insemination was spreading. Their offspring surpassed their contemporaries of native cattle by type traits, milk productivity and milk fat content.
- In 1961 three Jersey bulls were bought from Denmark and 2 bulls from Finland (Sultan and Iiro).
- In 1965, 20 pregnant heifers and 2 bulls (Mahti and Tolari) were brought from Finland.
- In 1967, 50 pregnant heifers were imported from Finland.
- In 1982 artificial inseminations were carried out using the sperm of Brown Swiss, Ayrshire and Red Holstein bulls, but the rise in milk productivity was minimal and milk fat content decreased.
- In 1983, 23 pregnant heifers and 2 bulls were imported from Finland.

Pärivere State Farm became the breeding centre for Estonian Native cattle, director was Mihkel Kallaste (1957-1987). At the end of 1980s, the semen of Red Holstein bulls was used in order to avoid inbreeding.



Society's trip to Lanksaare farmstead on 30 July 2000. In the front row Valentin Sooberg, Olev Saveli, Mihkel Kallaste K. Kalamees

- On 13 October 1989 Estonian Native Cattle Breeders' Society was re-established on the initiative of Ainllmar Leesment.
- In 1990, the semen of Jersey bulls was used for single insertive cross-breeding (Kei, Jakob, Henry, Tanic).
- In 1994, the semen of Swedish Red Polled bull Frippe was used.

Table 1. Semen import of West-Finnish bulls

Year	Doses	Year	Doses	Year	Doses
1995	300	1999	300	2002	900
1997	550	2001	300		

- In 1999 the semen of Swedish Red Polled bull Quatro was used.
- In 1990-2003 49 local Estonian Native herdbook bulls have been used.

The membership of Estonian Native Cattle Breeders' Society has tripled, but the number of "cows of the year" has slightly decreased (Table 2).



Kāde Kalamees and Ädu Leesment, the daughters of Ain-Ilmar Leesment, an enthusiastic breeder of Estonian Native cattle

H.Hiis

Table 2. Herds of members of Estonian Native Cattle Breeders' Society, January 1

Indicator	1990	1995	1999	2000	2002	2003	2004
Members	68	70	153	157	180	210	171
Cows	566	555	466	443	503	518	490
Households	7	63	128	135	155	168	167
incl. >4 cows	4	6	26	24	21	20	24
Breeding farms	4	6	12	12	12	14	18
cows	523	260	259	176	174	257	273
Sale of breeding animals	50	26	81	75	88	35	85

Table 3. Number and productivity of the Estonian Native cattle

Year	No. of cows	Body weight, kg	Milk productivity					
			milk, kg	fat, %	fat, kg	protein, %	protein, kg	F + P, kg
1920/21	245	326	1619	3.91	63			
1938/39	1940	407	3123	4.14	129			
1945/46	1496	400	2165	4.13	90			
1948*	597	380	2184	4.10	90			
1970	1131	456	3003	4.28	129			
1990	566	467	3430	4.43	152	3.32	114	266
1994	564	x	2937	4.41	129	3.30	97	226
1998	504	x	3918	4.76	186	3.39	133	319
2002	505	x	3977	4.77	189	3.44	137	326
2003	490	x	3977	4.75	189	3.42	136	325

*special investigation

In order to operate a breeding farm for Estonian Native cattle one has to own 4 native breed cows and meet the conditions provided in the evaluation guidelines for breeding farms. Since 1990 the number of breeding farms has risen from 4 to 18. In 2003 Estonian Native cows were mainly kept in order to get milk and dairy products for the family. Only a few farms have increased the number of cows.

Year by year, the wither height, body depth and rump width of cows have increased, but the rump length and chest girth have decreased to the level of 1968. The weight of cows has decreased as well, which could be due to the use of Jersey breed.

As Estonian Native cows are mainly kept for home use, the content of dry matter is most important, which leads to the mean milk yield of 4000 kg. On Põlula Experimental Farm, where feeding conditions are very good, Estonian Native cows are capable of producing 7000 kg of milk in their first lactation (Table 5).



Jüri Simovart with Huanita

K. Kalamees

The sale of Estonian Native cattle has been coordinated by Animal Breeders' Association of Estonia. Since 1999, most cows from native breed have been sold by Lanksaare farm, C.R.Jakobson's farm-museum and Kristo Vahenurme's farm.

Since 1995 the cows from 17 farms have participated in pedigree exhibitions of the republic, among them 116 from native breed and 6 from Jersey breed. Most cows have been from Lanksaare farm (27), Looga farm (20), Palu farm (19) and Mereranna POÜ (15). At the exhibition "Pedigree Animal 2003" a top cow (VISS) from Estonian Native breed was elected for the first time – it was Niiu from Pajumäe farm (originated from Lanksaare farm).



Ulvar EK 222 at Lanksaare farmstead

O. Saveli



VISS 2003 Niiu at Ülenurme

K. Kalamees

The first place is held by Mirdi who stayed in the herd for 13 lactations and had stable milk productivity in all lactations (Table 7). Mirdi had 7 female calves and 6 male calves, 2 of the latter became pedigree bulls (Lembo EK 187 and Töll EK 200).

Table 8 gives a survey of the best cows of Estonian Native breed though time.

The analyses made in 1999 showed that among the best 30 cows there were 16 who had been born before 1990, but now there are only 5 of these cows in the top 30. Nine cows in the table have been born in 1995 and later. This fact should reveal better breeding and better feeding.

Table 4. Body measurements of the Estonian Native cattle in 1910...1999

Indicator	1910..12	1935..39	1948	1968	1988	1997...99
No. of cows measured	200	559	1325	507	377	218
Rump height, cm	117.1	121.4	121.2	122.2	122.4	128
Chest depth, cm	61.4	64.9	63.7	65.6	67.1	69
Rump width, cm	x	x	41.0	41.9	40.3	48
Rump length, cm	45.5	50.1	48.0	50.8	52.1	49
Chest girth, cm	162.4	173.5	165.4	178.6	183.1	176
Body weight, kg	320	424	380	456	496	436

Table 5. Elite breeding farms of the Estonian Native cattle in 2003

Herd owner	No. of cows	Forage cows	Per cow					Total score
			milk, kg	fat, %	fat, kg	protein, %	protein, kg	
Põlula Experimental Farm	6	5	6930	4.63	321	3.68	255	131
Palu talu, J. Simovart	11	9	4927	4.68	231	3.66	180	109
Murru talu, A. Prints	4	3	5261	5.19	273	3.35	176	105
TÜ Mereranna POÜ	26	31	4767	4.87	232	3.48	166	105
Uustla talu, L. Sooäär	14	13	4434	4.78	212	3.49	155	100

Table 6. Participants in the exhibition with their Estonian Native cattle in 1995...2003

Participant	1995	1996	1997	1998	1999	2000	2001	2002	2003
Lanksaare talu	2	2	2	2	3	3	3	-	10
Looga talu	-	2	2	2	4	2	3	3	2
Palu talu	-	-	-	-	3	3	3	4	5



Record cow Uuni of the Estonian Native breed (2-305-9502-3.87-3.22-674)

A. Juus



Delivery of the oldest cow of Estonia (born 1982) to Prof. Toivo Suuroja, the Dean of the Faculty of Veterinary Medicine of the Estonian Agricultural University

A. Juus

Table 7. Cows with highest lifetime milk fat yield

No.	Inv. No.	Name	Owner, county	Birth date	Milk, kg	Fat	
						%	kg
1.	2557	Mirdi	V. Sooberg, Pärnu	6.02.1982	65119	5.01	3264
2.	1201	Eha	J. Andresson, Pärnu	26.03.1926	67931	4.47	3034
3.	2037	Miia	Vahenurme kolh., Pärnu	8.04.1969	55081	5.45	3003
4.	293	Roosi	A. Rungi, Pärnu	24.08.1926	68199	4.38	2988
5.	151	Kõla	M. Siim, Pärnu	22.01.1924	67574	3.97	2980

Table 8. Top cows of the Estonian Native breed through time by milk fat and protein production

Name and No.	Sire, Herdbook No.	Owner	Birth year	Lact. No.	Milk productivity			
					M, kg	F, %	P, %	F+P, kg
1. Uiu 162	Töll EK 200	Põlula EF	1999	1	8552	4.9	3.72	737
2. Uuni 156	Fram EK 189	Põlula EF	1999	2	9502	3.87	3.22	674
3. Pummi 28	Kei EK 50160	J.Simovart	1993	5	7609	4.46	3.70	621
4. Kessu 103	Kei EK 50160	H. Puur	1992	3	8017	4.24	3.42	614
5. Gauni 341	Jerti EK 190	Põlula EF	1999	2	7524	4.36	3.59	599
6. Nanna 140	Lari EK 161	L. Lüüs	1992	4	6792	5.31	3.43	593
7. Unna 160	Fram EK 189	Põlula EF	1999	1	6516	5.25	3.84	592
8. Iiris 8659	Rafik EK 149	S. Kask	1990	3	6598	5.04	3.77	581
9. Betty 135	Mau EK 166	S. Trahv	1997	3	7267	4.21	3.57	565
10. Taisi 8658	Sandor EK 147	S. Kask	1990	4	6517	5.29	3.35	563
11. Tuksikari 834	Tanic EK 50043	TÜ Mereranna POÜ	1995	5	5913	5.75	3.69	559
12. Jakobiine 6440	Kei EK 50160	L. Kallaste	1991	5	5743	6.1	3.56	555