

Supplimental Information

To the article

The Storage Stability of Total DNA in Dried Blood Samples under Different Temperatures and Sunlight Exposure

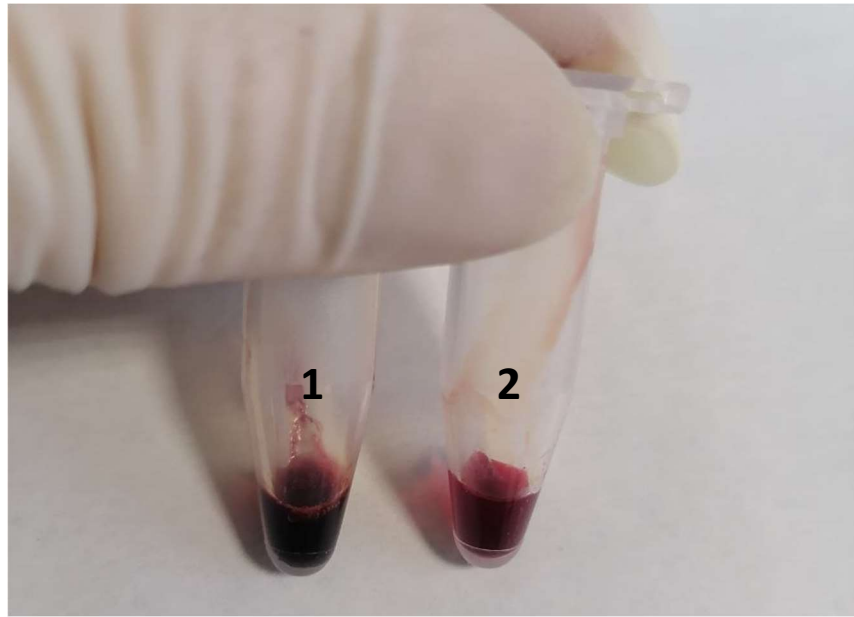
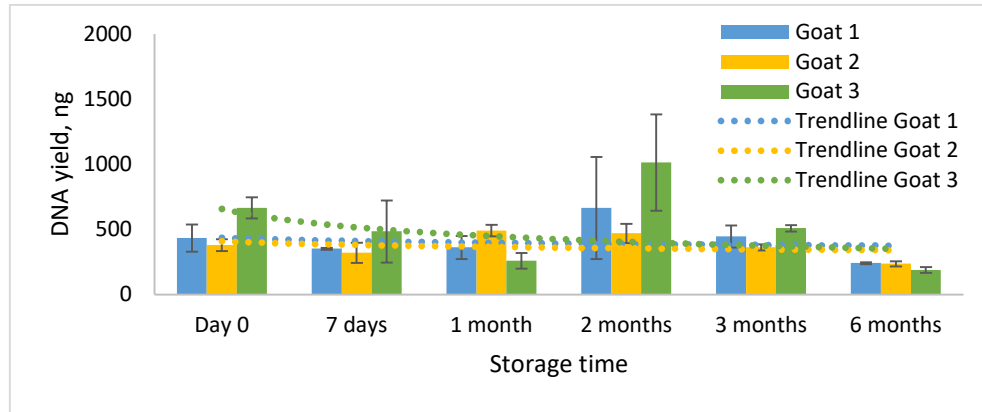
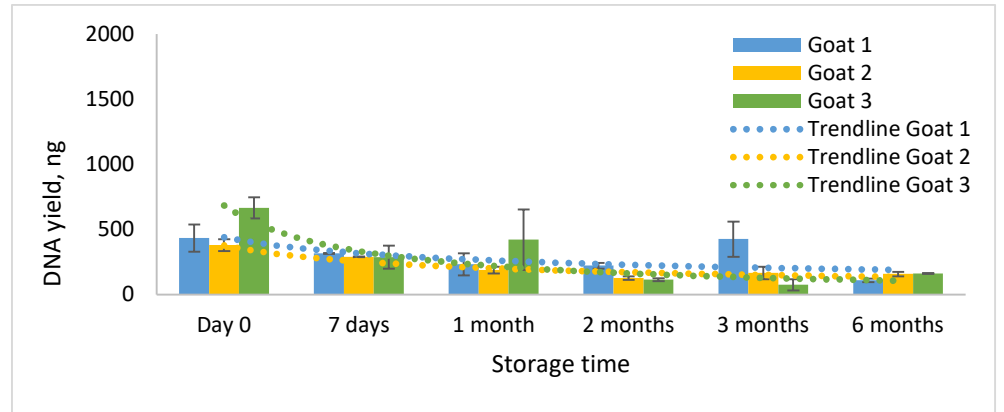


Figure S1. The appearance of thawed whole blood stored at $-20\text{ }^{\circ}\text{C}$ (1) and $-78\text{ }^{\circ}\text{C}$ (2) for a year.

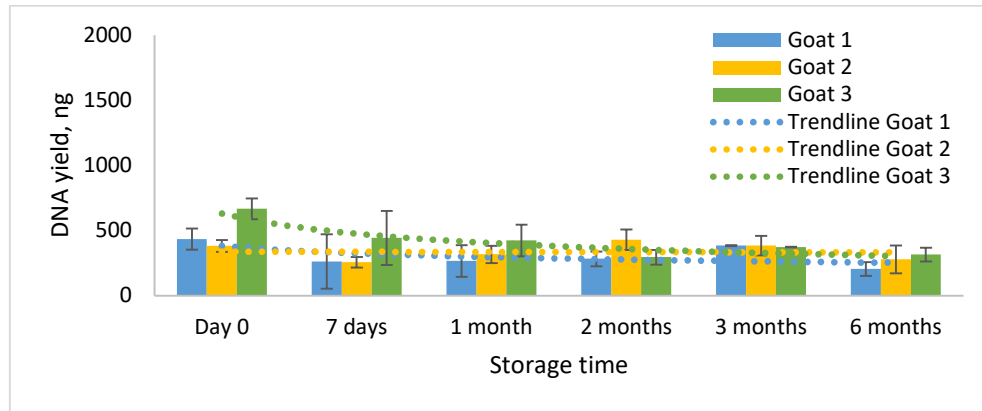
A



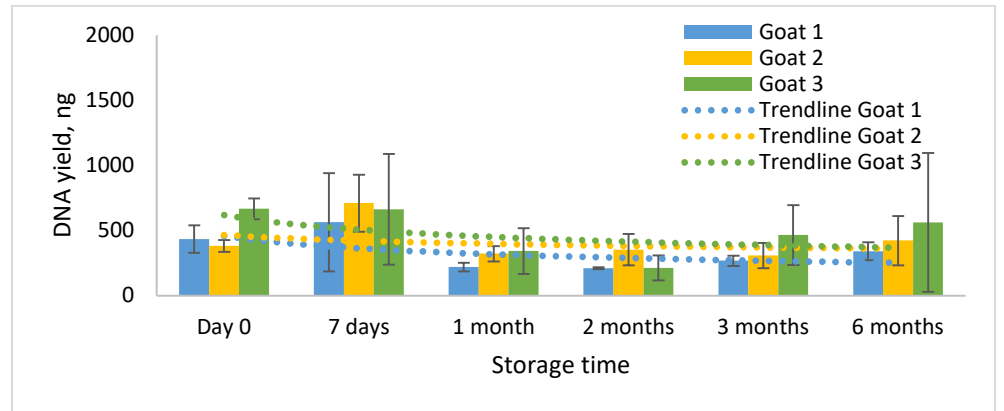
D



B



E



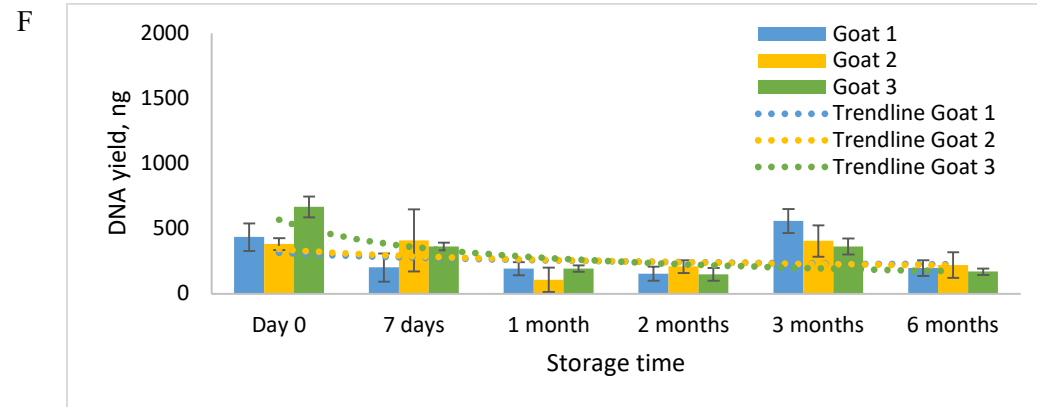
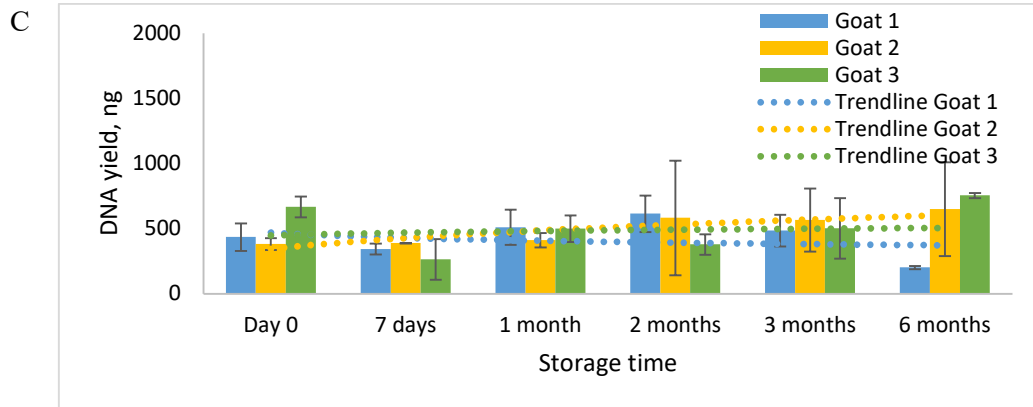
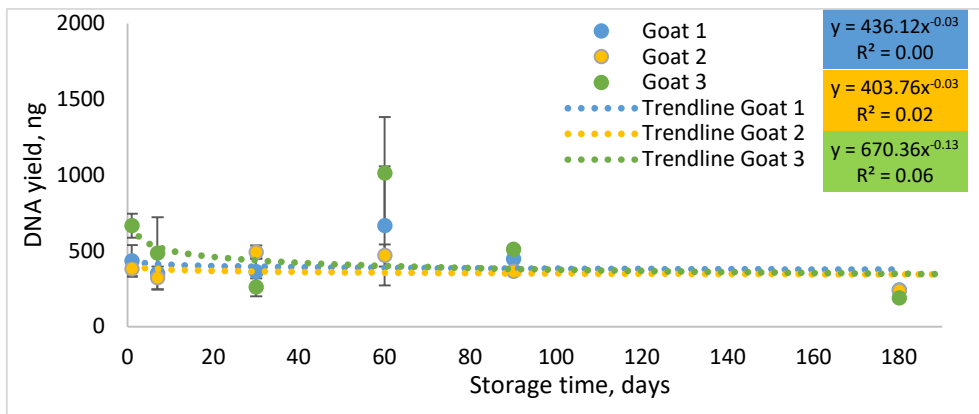
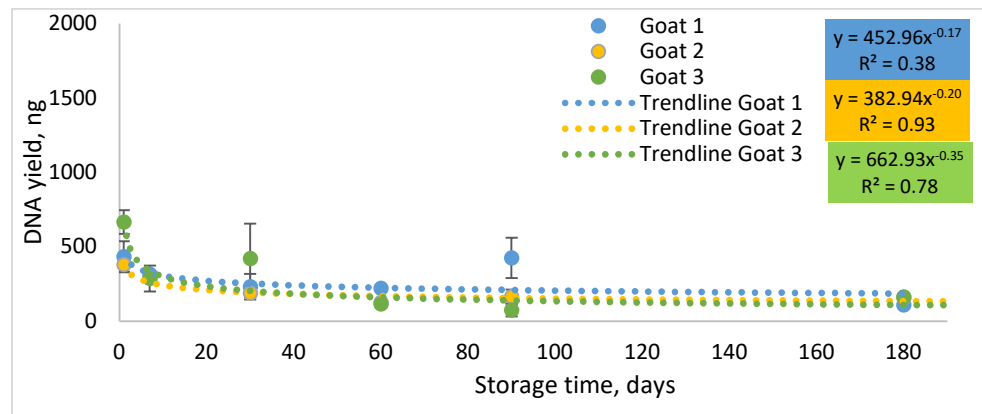


Figure S2. The changing of total DNA concentration extracted from dried blood spots (cellulose membrane) over six months storage at different temperatures and sunlight conditions: **A)** $-78\text{ }^{\circ}\text{C}$, **B)** $-20\text{ }^{\circ}\text{C}$, **C)** $+4\text{ }^{\circ}\text{C}$, **D)** RT (in zip-lock bag in the dark), **E)** RT (in zip-lock bag in the light), **F)** RT (non-packed, in the light). Values represent mean \pm SD (standard deviation), $n=2$. Blue – goat 1, yellow – goat 2, green – goat 3. Dashed lines – trendlines (power function).

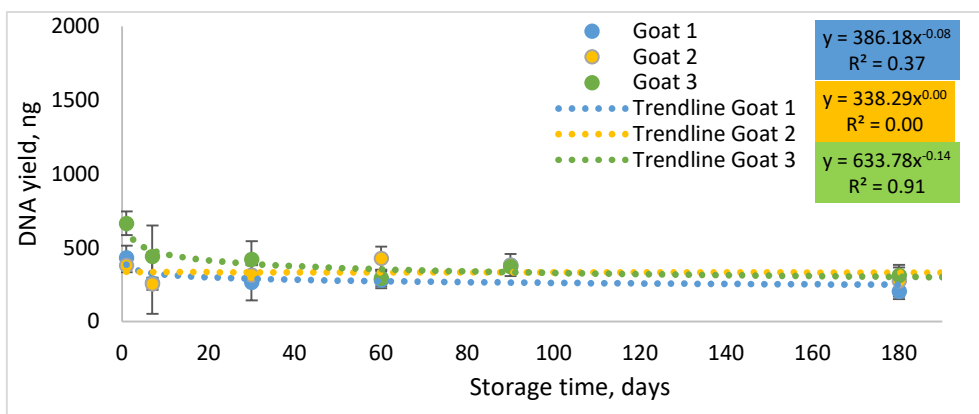
A



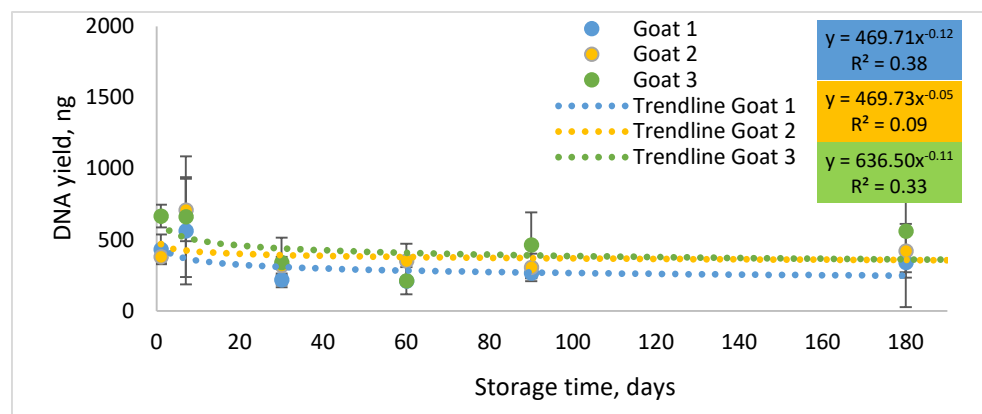
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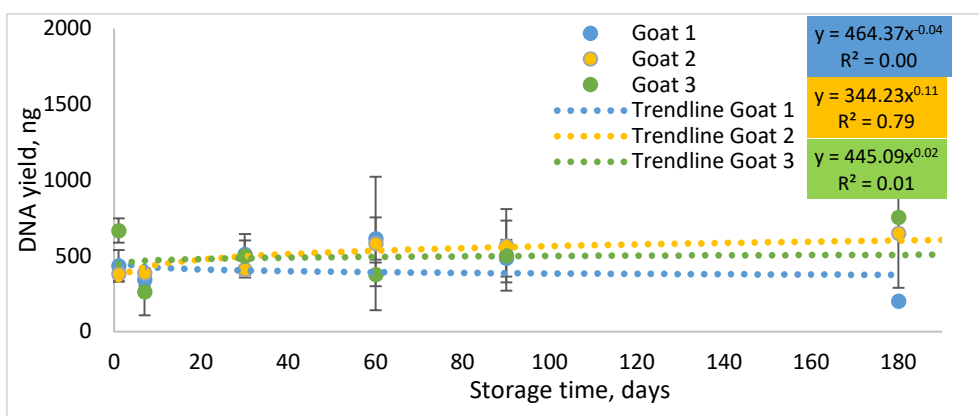
B



E



C



F

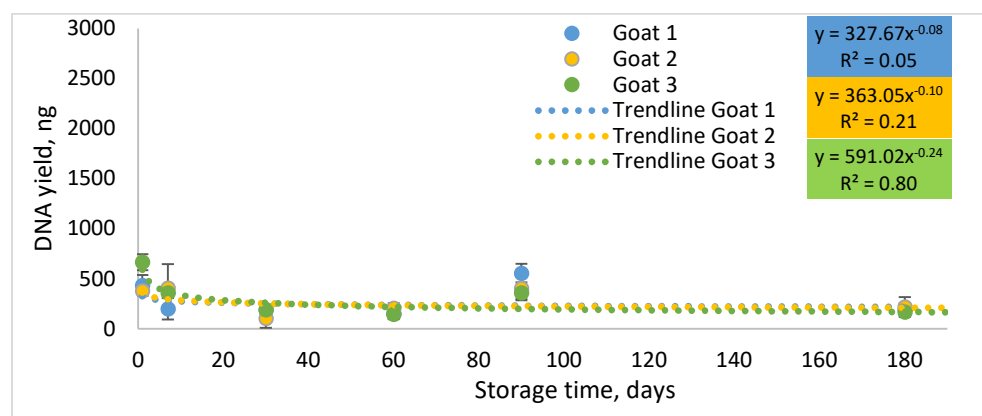
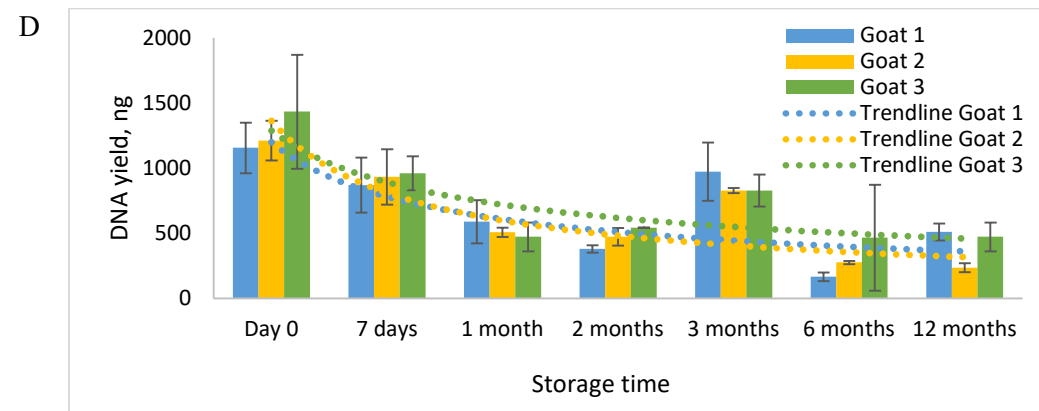
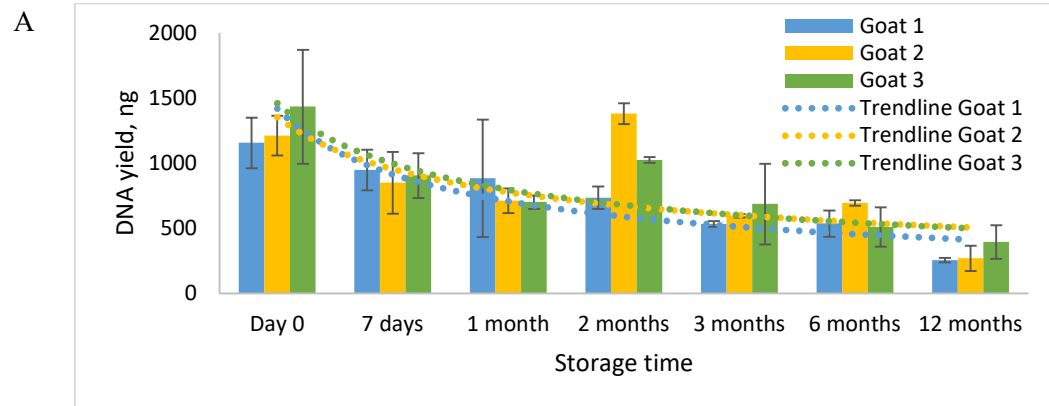


Figure S3. The changing of total DNA concentration extracted from dried blood spots (cellulose membrane) over six months storage at different temperatures and sunlight conditions: **A)** $-78\text{ }^{\circ}\text{C}$, **B)** $-20\text{ }^{\circ}\text{C}$, **C)** $+4\text{ }^{\circ}\text{C}$, **D)** RT (in zip-lock bag in the dark), **E)** RT (in zip-lock bag in the light), **F)** RT (non-packed, in the light). Values represent mean \pm SD (standard deviation), $n=2$. Blue – goat 1, yellow – goat 2, green – goat 3. Dashed lines – trendlines; power function equation and R^2 value provided in colored text boxes.



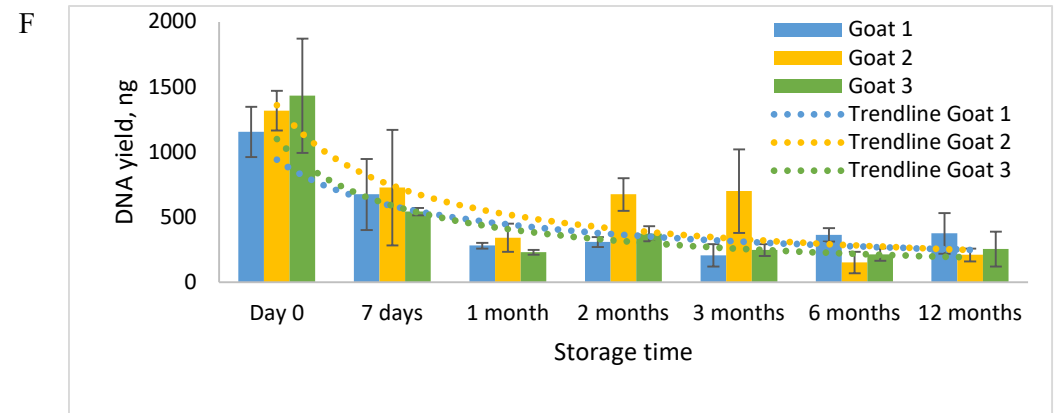
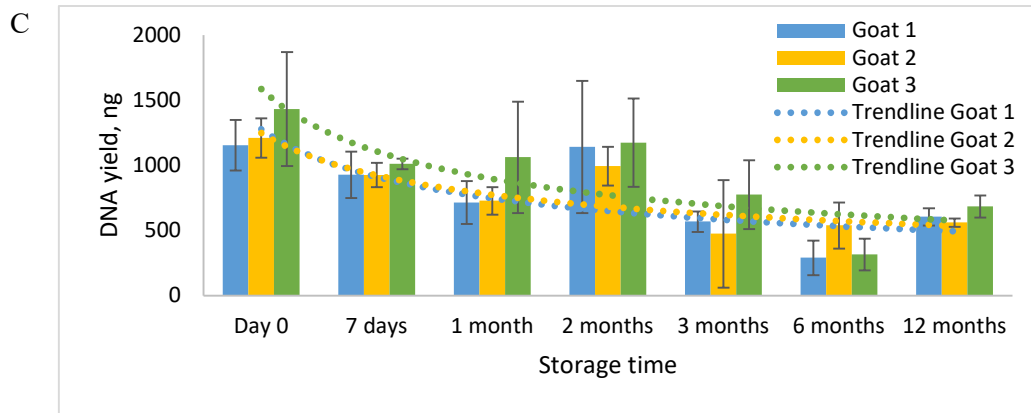
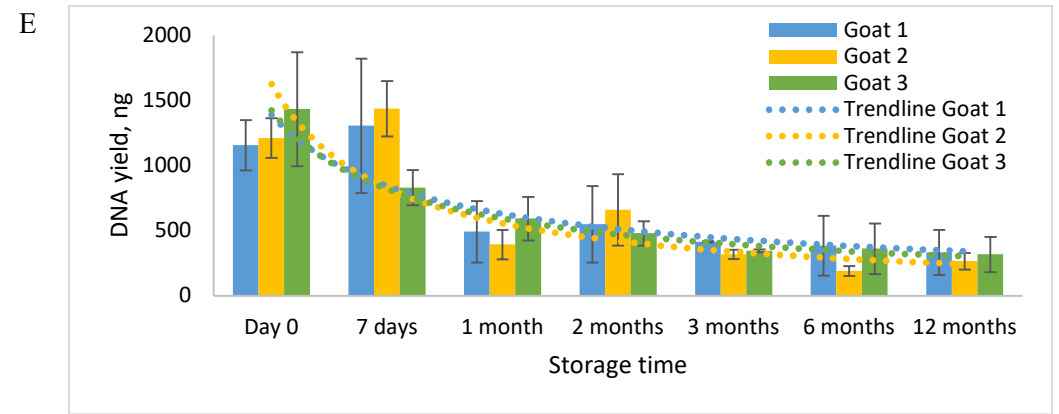
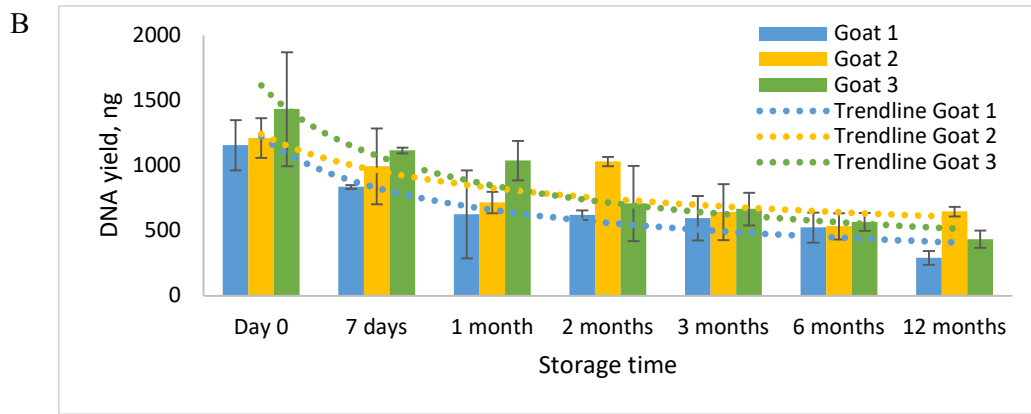
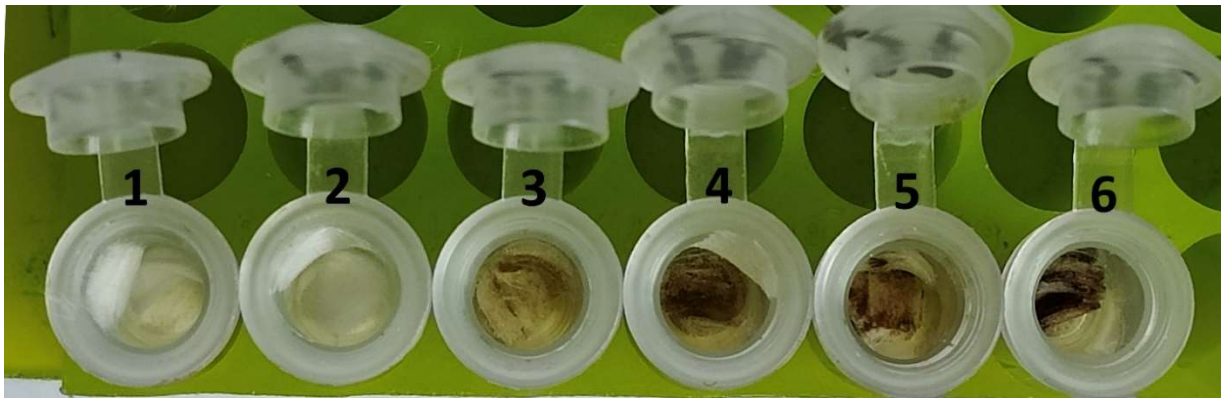


Figure S4. The changing of total DNA concentration extracted from strip-dried samples (fibre glass membrane) over twelve months storage at different temperatures and sunlight conditions: **A)** $-78\text{ }^{\circ}\text{C}$, **B)** $-20\text{ }^{\circ}\text{C}$, **C)** $+4\text{ }^{\circ}\text{C}$, **D)** RT (in zip-lock bag in the dark), **E)** RT (in zip-lock bag in the light), **F)** RT (non-packed, in the light). Values represent mean \pm SD (standard deviation), $n=2$. Blue – goat 1, yellow – goat 2, green – goat 3. Dashed lines – trendlines (power function).

Glass fibre

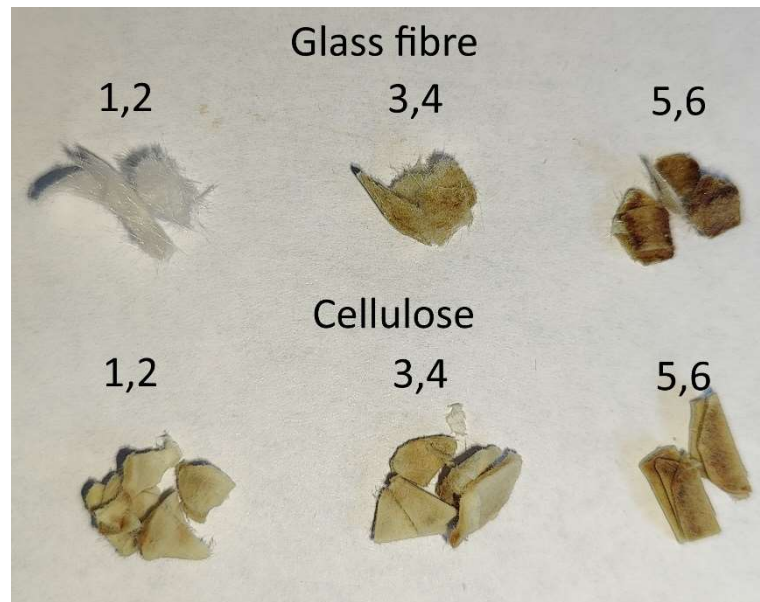


A

Cellulose



B

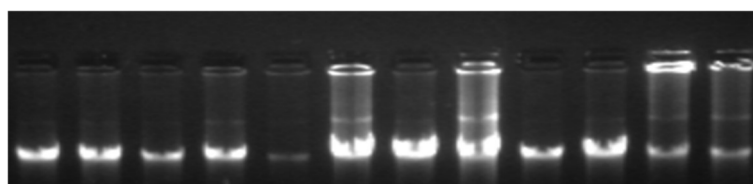
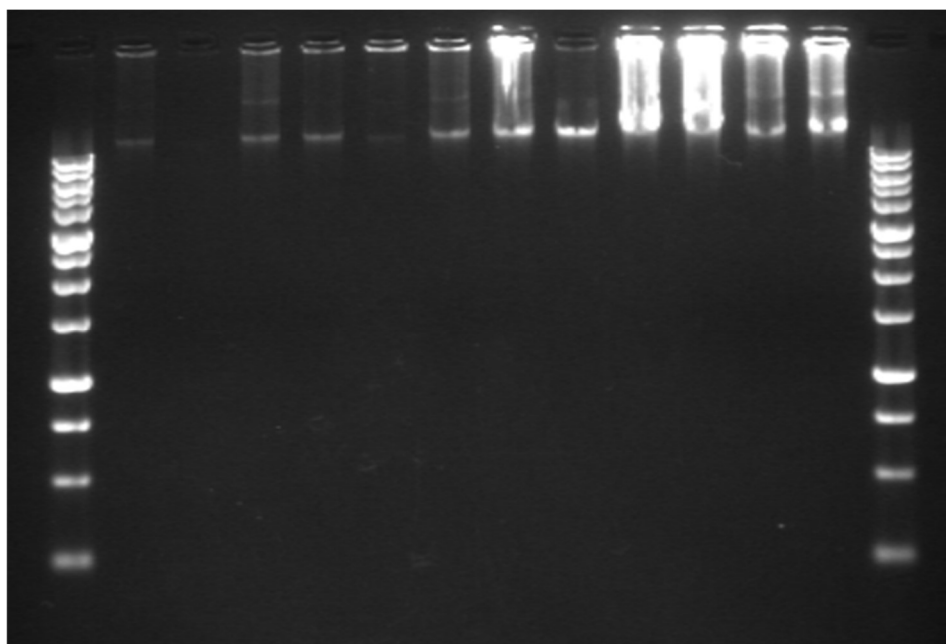


C

Figure S5. The appearance of **A)** glass fibre membranes (strip-dried blood) and **B)** cellulose membranes (dried blood spots) stored at room temperature for a year after spinning with lysate on silica columns. **C)** – The appearance of membranes taken off the column.

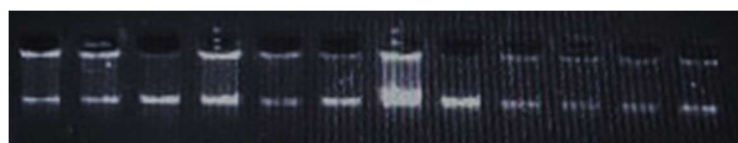
Samples of dried blood were stored at room temperature: packed in zip-lock plastic bag with desiccant in the dark place (1, 2), packed in zip-lock plastic bag with desiccant in the sunlight (3, 4) or on a shelf, non-packed, in the sunlight (5, 6).

Two months storage



A

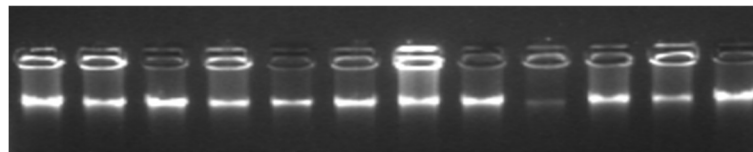
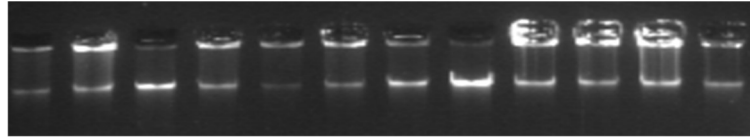
Four months storage





B

Five months storage



C

Eleven months storage



D

Figure S6. Result of electrophoretic separation of total DNA extracted from whole blood samples of domestic goats.

Extracted DNA was stored at $-20\text{ }^{\circ}\text{C}$ for **A)** two, **B)** four, **C)** five and **D)** eleven months and thawed when needed to perform the measurement of DNA concentration and electrophoretic separation. DNA length marker (“DNA Ladder 1 kb”, Evrogen, Moscow) ranged from 1k bp to 250 bp. Upper row – samples no. 1-12, lower row – samples no. 13-24.

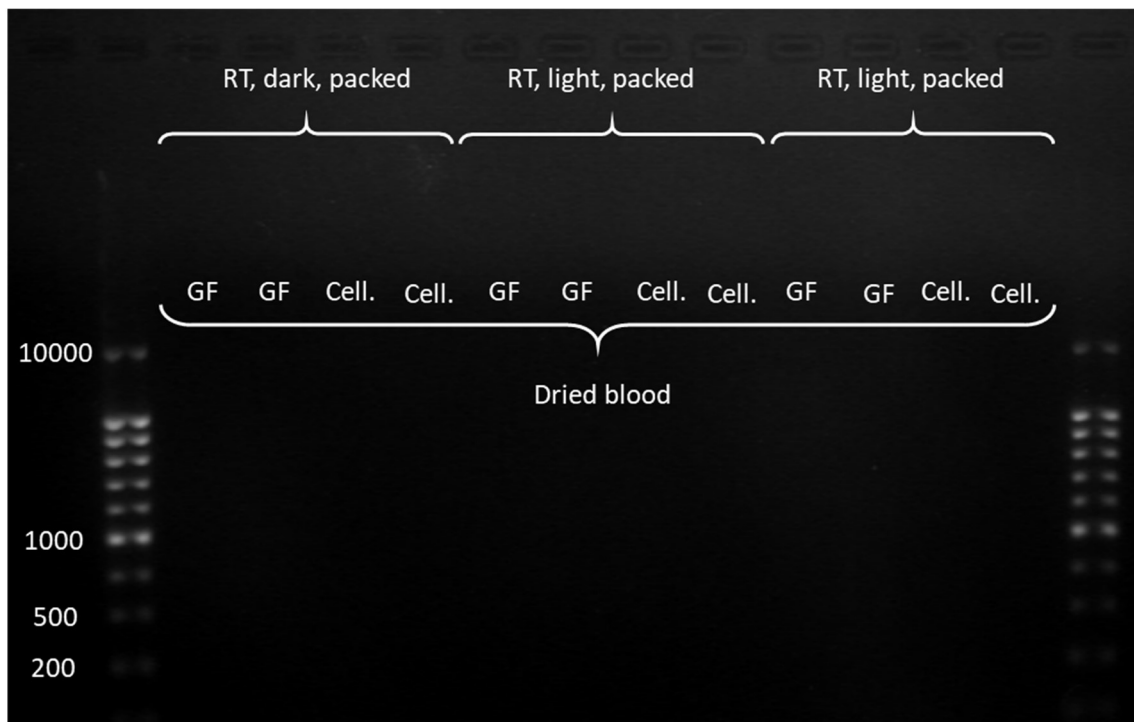
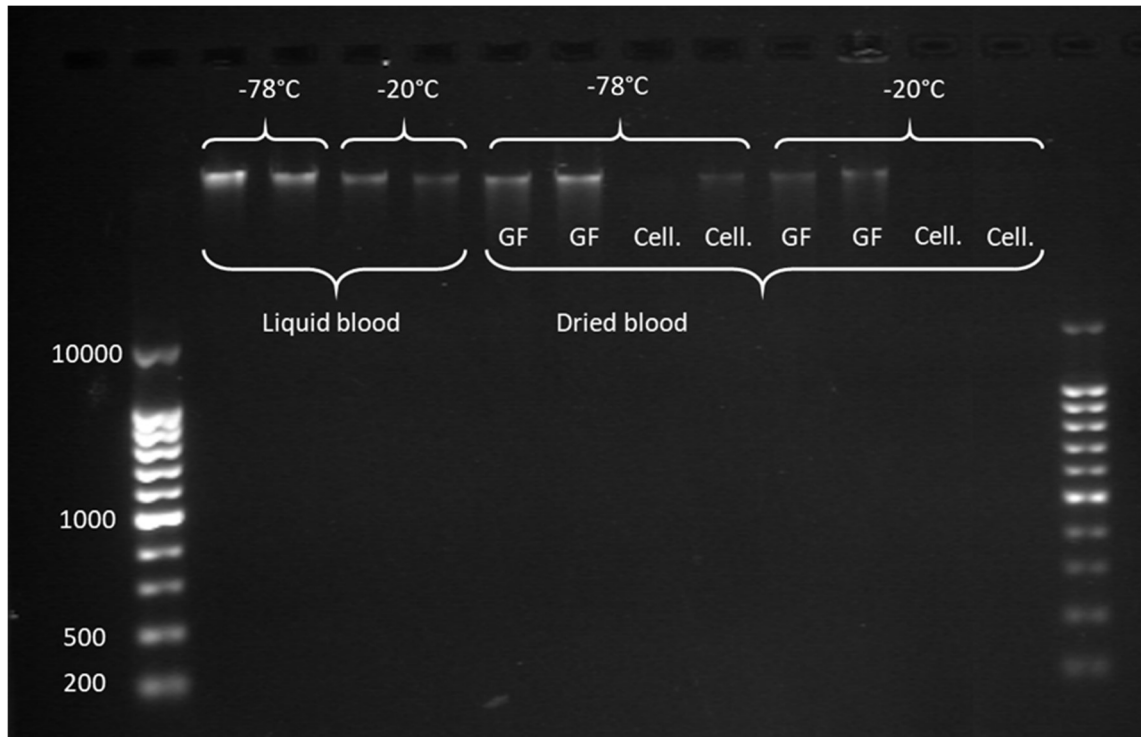


Figure S8. Result of electrophoretic separation of total DNA extracted from frozen liquid and dried blood samples of domestic goats stored for 1.5 years at different storage conditions.

RT – room temperature, GF – glass fibre membrane, Cell. – cellulose membrane.

Table S7. Total DNA concentration (ng/ μ L) during eleven months storage at $-20\text{ }^{\circ}\text{C}$ *

	Day 0	2 months	% of initial concentration	4 months	% of initial concentration	5 months	% of initial concentration	11 months	% of initial concentration
1	19,8	17,2	87%	17,4	88%	16,4	83%	18,8	95%
2	13,4	9,2	69%	11,0	82%	13,5	101%	17,7	132%
3	30,4	24,9	82%	22,4	74%	21,0	69%	29,9	98%
4	21,2	7,9	37%	11,0	52%	11,2	53%	12,2	57%
5	8,9	8,7	98%	8,3	93%	8,9	100%	12,9	144%
6	17,2	9,5	55%	8,4	49%	8,6	50%	10,1	59%
7	21,2	8,0	38%	15,3	72%	17,1	81%	17,8	84%
8	13,8	12,1	88%	13,5	98%	15,5	113%	15,9	115%
9	13,0	5,9	45%	7,7	59%	8,6	66%	6,9	53%
10	14,2	5,5	39%	4,6	33%	5,4	38%	7,3	51%
11	10,7	7,6	71%	4,7	44%	5,2	49%	4,8	45%
12	18,6	8,9	48%	8,1	44%	8,8	47%	16,4	88%
13	18,4	15,7	85%	14,5	79%	15,1	82%	14,7	80%
14	18,1	16,2	90%	15,6	86%	16,5	91%	12,2	67%
15	16,0	15,0	94%	14,4	90%	15,0	93%	11,7	73%
16	14,5	15,6	107%	13,0	90%	11,8	81%	7,0	48%
17	22,8	15,7	69%	15,3	67%	18,3	80%	24,2	106%
18	18,1	17,2	95%	16,0	89%	17,2	95%	13,2	73%
19	21,8	19,0	87%	18,2	84%	14,7	68%	15,6	72%
20	16,3	15,3	94%	12,3	75%	13,0	80%	13,4	82%
21	13,3	8,3	62%	8,1	61%	8,0	60%	5,9	44%
22	15,6	14,0	90%	12,6	81%	11,4	73%	14,0	90%
23	17,8	13,2	74%	12,6	71%	13,4	75%	13,5	76%
24	13,9	12,6	90%	11,0	79%	10,9	78%	13,9	100%

*DNA was extracted from frozen blood ($-20\text{ }^{\circ}\text{C}$)