

Influence of sperm quality (cryopreserved and native) on the duration of spermatozoa storage in reproductive tracts of turkeys.

Tatiana Mavrodina , Olga Stanishevskaya (olgastan@list.ru), Sergey Cherepanov (serg_cherepanov@list.ru), Yulia Silyukova (svadim33@mail.ru).

Long term storage of turkey toms' sperm outside their organisms (cryoconservation in the liquid nitrogen) is one of the methods of gene pool preservation. It enables to preserve gene resources of domestic breeds, definite strains (paternal) and keep wide genetic variability. Use of cryopreserved sperm of the elite males can be beneficial for acceleration of genetic improvement of strains and populations.

MATERIALS AND METHODS

Sperm cryopreservation and artificial insemination by the methods, developed in the RRIFAGB, was applied on the of White Widebreasted (white feathered) and Tikhoretskaya Black (black feathered) turkey breeds.

There was investigated duration of storage in turkeys reproductive system depending on the quality of used sperm. In the first group there was used group- native semen, in the second frozen-and-thawed semen.

The experiment was designed as following: the White Widebreasted female turkeys in the beginning of the breeding season were inseminated three times by the sperm of toms with dominated black feathering, and later by the sperm of White Widebreasted toms. According to the share of progeny with black or white feathers there was judged, sperm of which breed participated in the fertilization



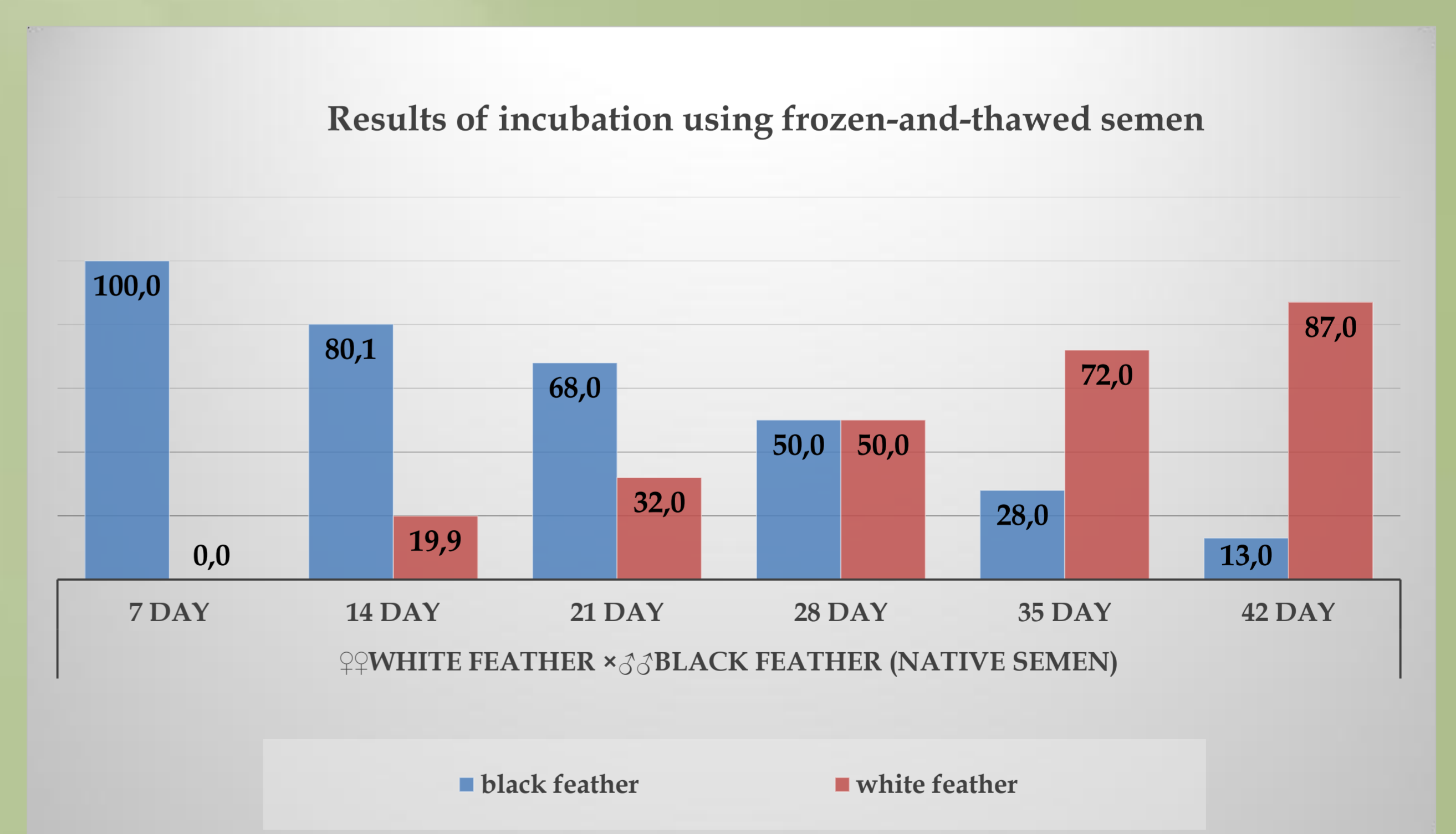
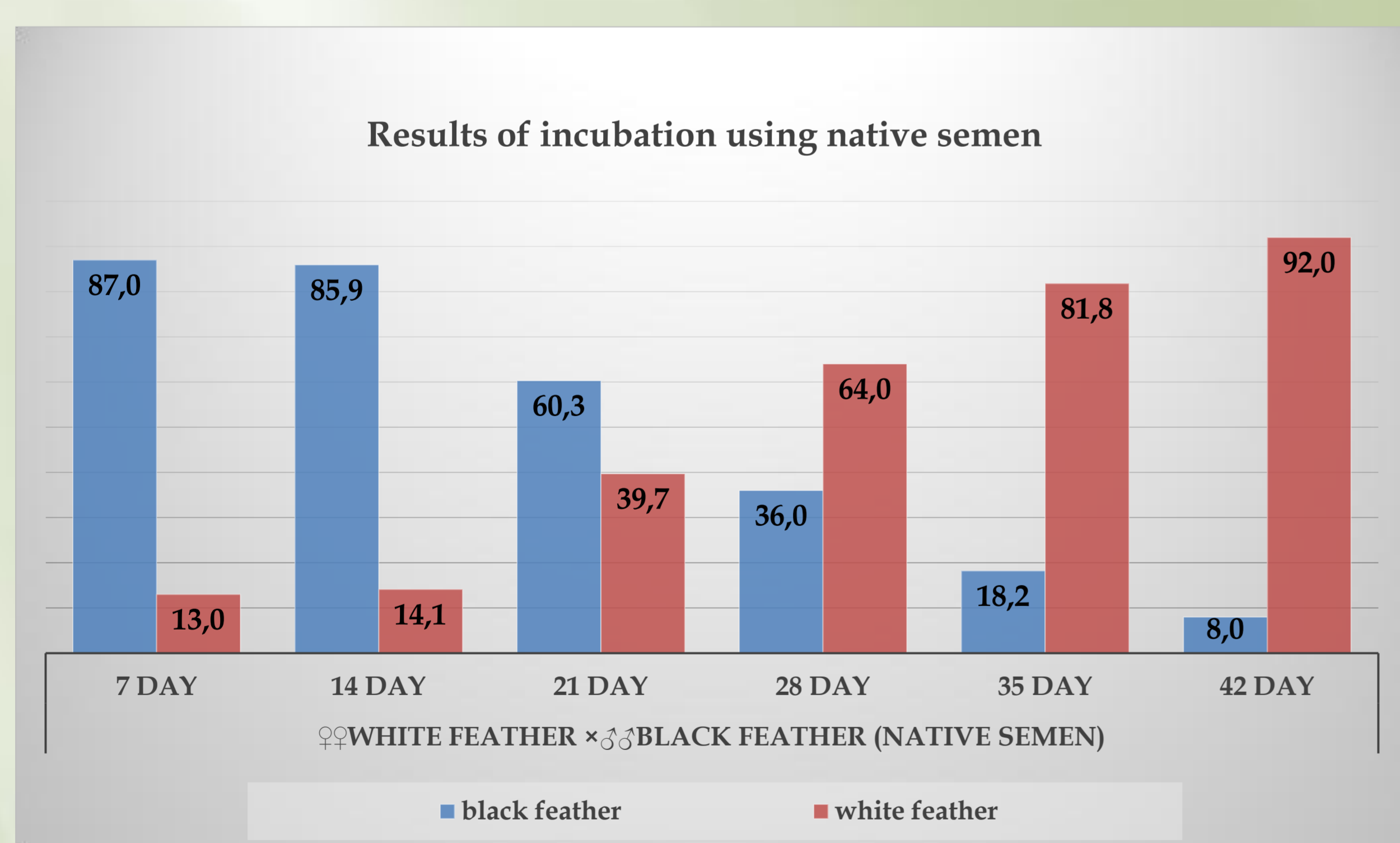
White Widebreasted

The scheme of insemination with native and frozen-and-thawed semen

	1 st day ♂	2 nd day ♂	3 rd day ♂	4 th day ♂	5 th day ♂	6 th day ♂	7 th day ♂
1 st group – native semen	B	B	B	W	W	W	W
2 nd group - frozen-and-thawed semen	B	B	B	W	W	W	W



Tikhoretskaya Black



RESULTS

The results revealed, that during all experiment, i.e. 42 days in the experimental groups there appeared progeny with dark feathering. While within 14 days the number of turkey chicks with black feathers in the first group (native sperm) was higher, than in the second group (frozen-and-thawed sperm) - 85,9% vs 80,1%, later in the second group the number of black feathered chicks was 8-14% higher. It means, that freezing and thawing processes do not impact on the survival potential and fertilization ability of spermatozoa in reproductive tract of female turkeys. Relatively lower fertility after insemination by frozen-and thawed sperm apparently can be explained by the fact, that during freezing and thawing some amount of spermatozoa dies and the number of survived is not sufficient for the normal fertilization process.