SEASONAL VARIATION OF SOME SPERM PARAMETERS IN BOARS HOUSED IN STANDARDIZED CONDITIONS

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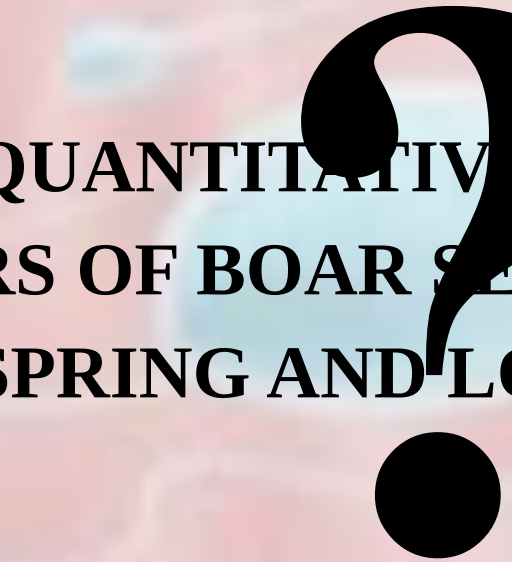
THE QUANTITATIVE AND QUALITATIVE PARAMETERS OF BOAR SEMEN ARE BETTER DURING WINTER/SPRING AND LOWER DURING SUMMER



MATERIAL AND METHODS

Boars

- 31 clinically healthy and sexually mature Pietrain boars, aged between 8 months and 2.5 years, from a modern, recently built unit, specialized in porcine reproduction.

Housing conditions:

- Temperature: around 18°C;
- Light: 11 hours a day

Time interval

- 12 months, (December 2012 - November 2013), including all the four seasons specific to temperate climate: **winter** (December, January, February), **spring** (March, April, May), **summer** (June, July, August) and **autumn** (September, October, November).

Semen collection

- manual method with double glove

MATERIAL AND METHODS

Semen examination

The main seminal parameters were determined, as follows:

Volume → using the beaker;

Semen concentration,

Total number of sperm/ejaculate,

Total motility,

Total number of motile spermatozoa/ejaculate,

Progressive motility,

Total number of progressive spermatozoa/ejaculate

} using a computer assisted sperm analyzer

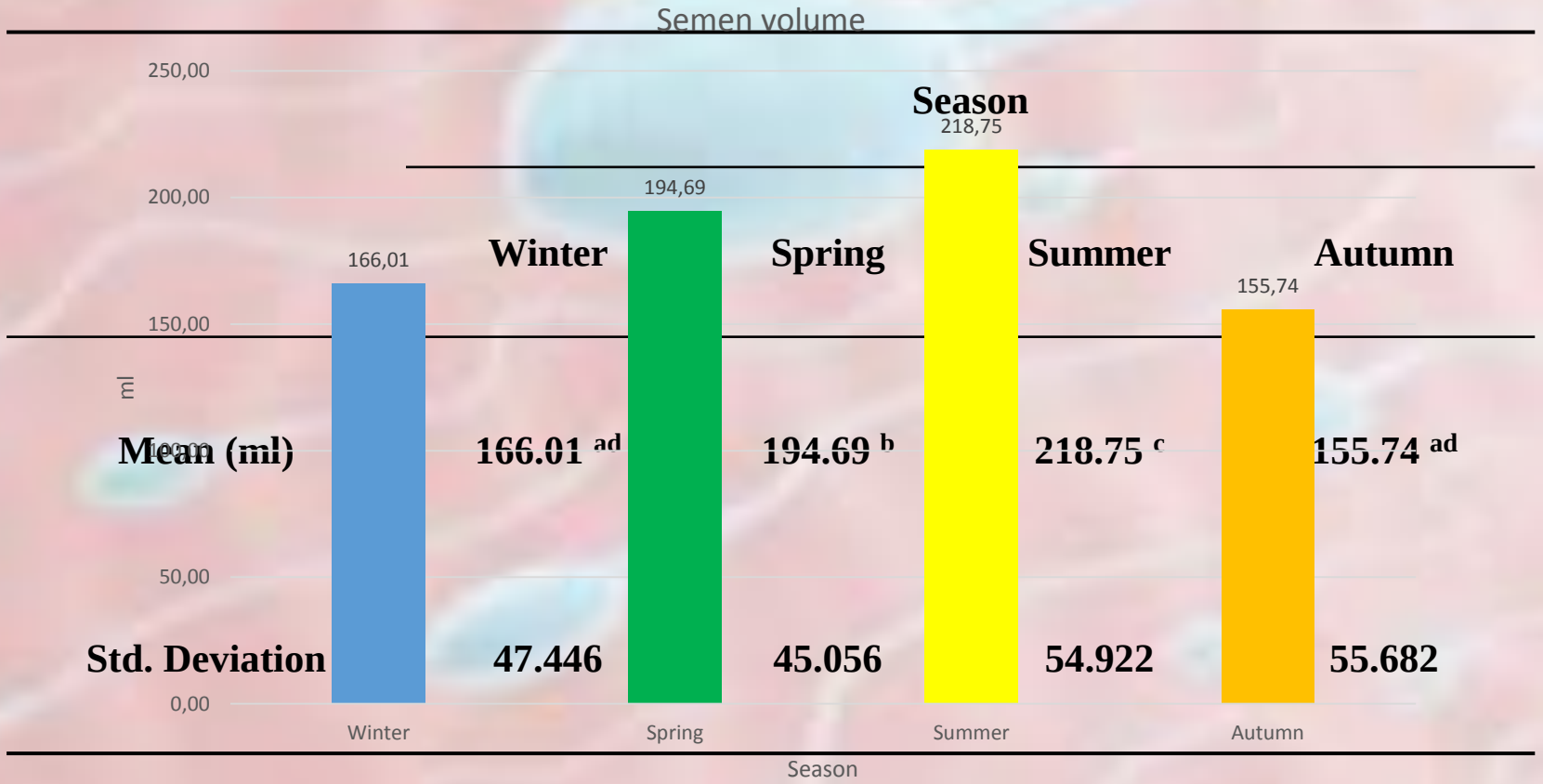
! Only the ejaculates with at least 60% total motility were recorded and processed, the rest of them being discarded.

Statistical analysis

One-Way ANOVA test (statistically significance was set at $p < 0.05$) using IBM SPSS® Statistics program, version 21

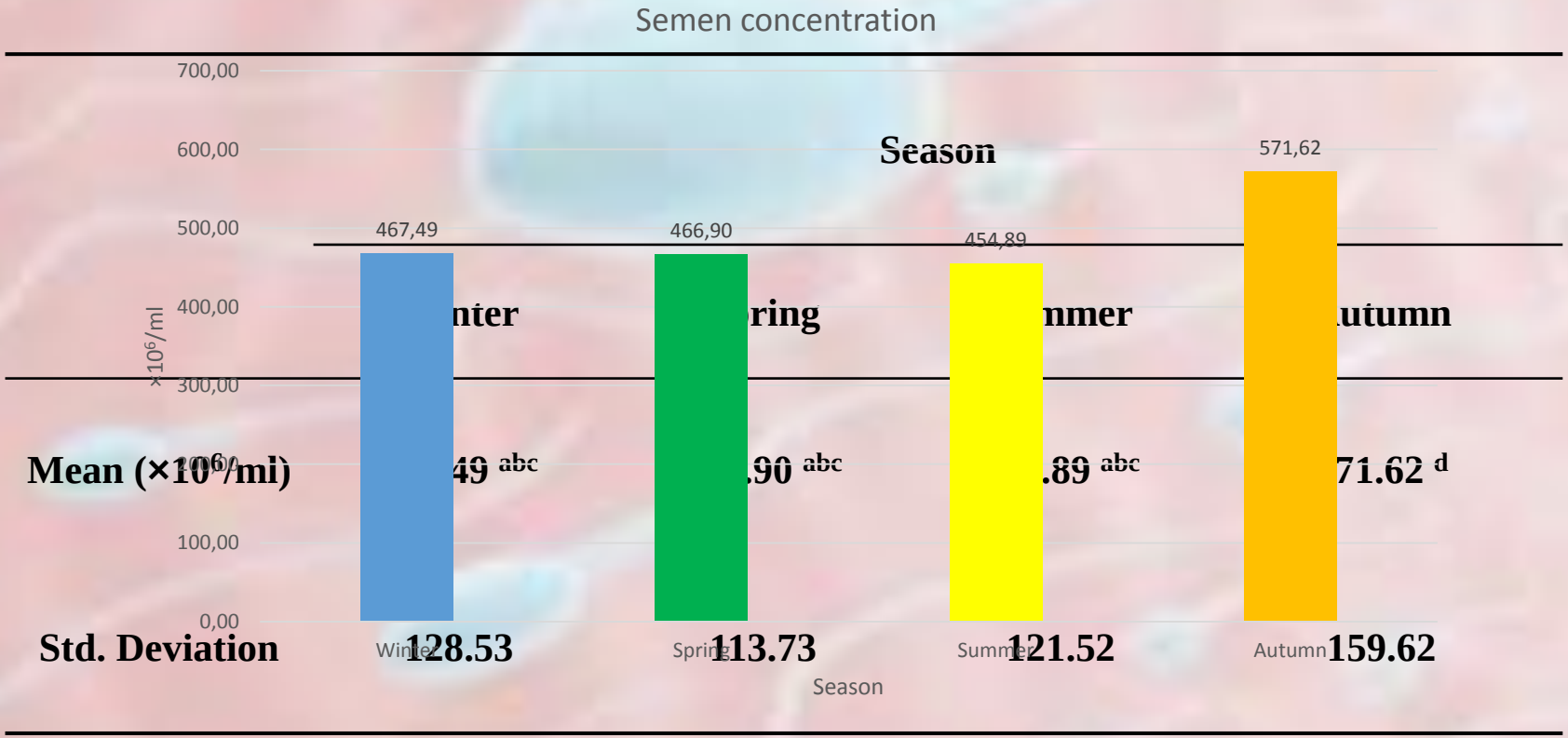
RESULTS AND DISCUSSION

Seasonal variation of volume



RESULTS AND DISCUSSION

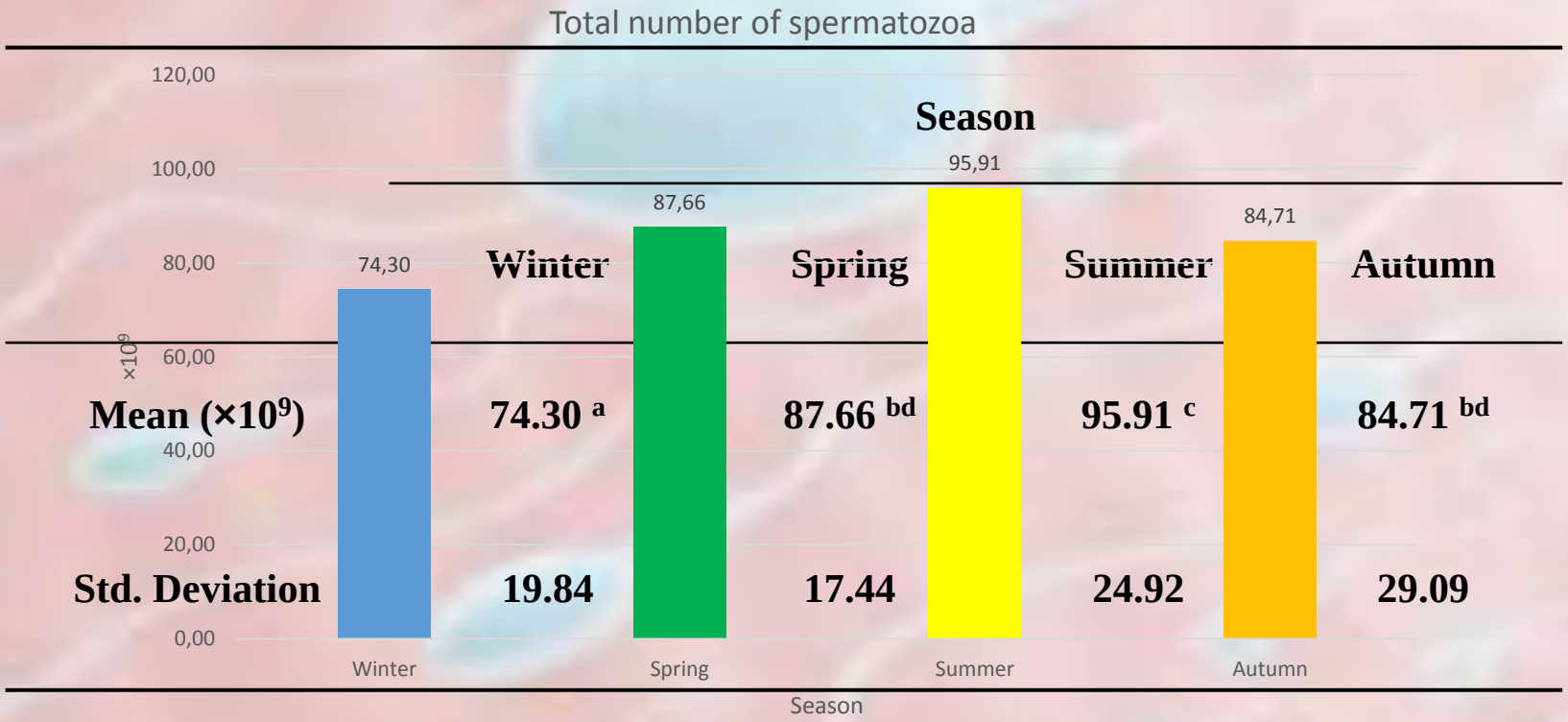
Seasonal variation of semen concentration



Season	Winter	Spring	Summer	Autumn
Mean (×10⁶/ml)	467.49 abc	466.90 abc	454.89 abc	571.62 d
Std. Deviation	128.53	113.73	121.52	159.62

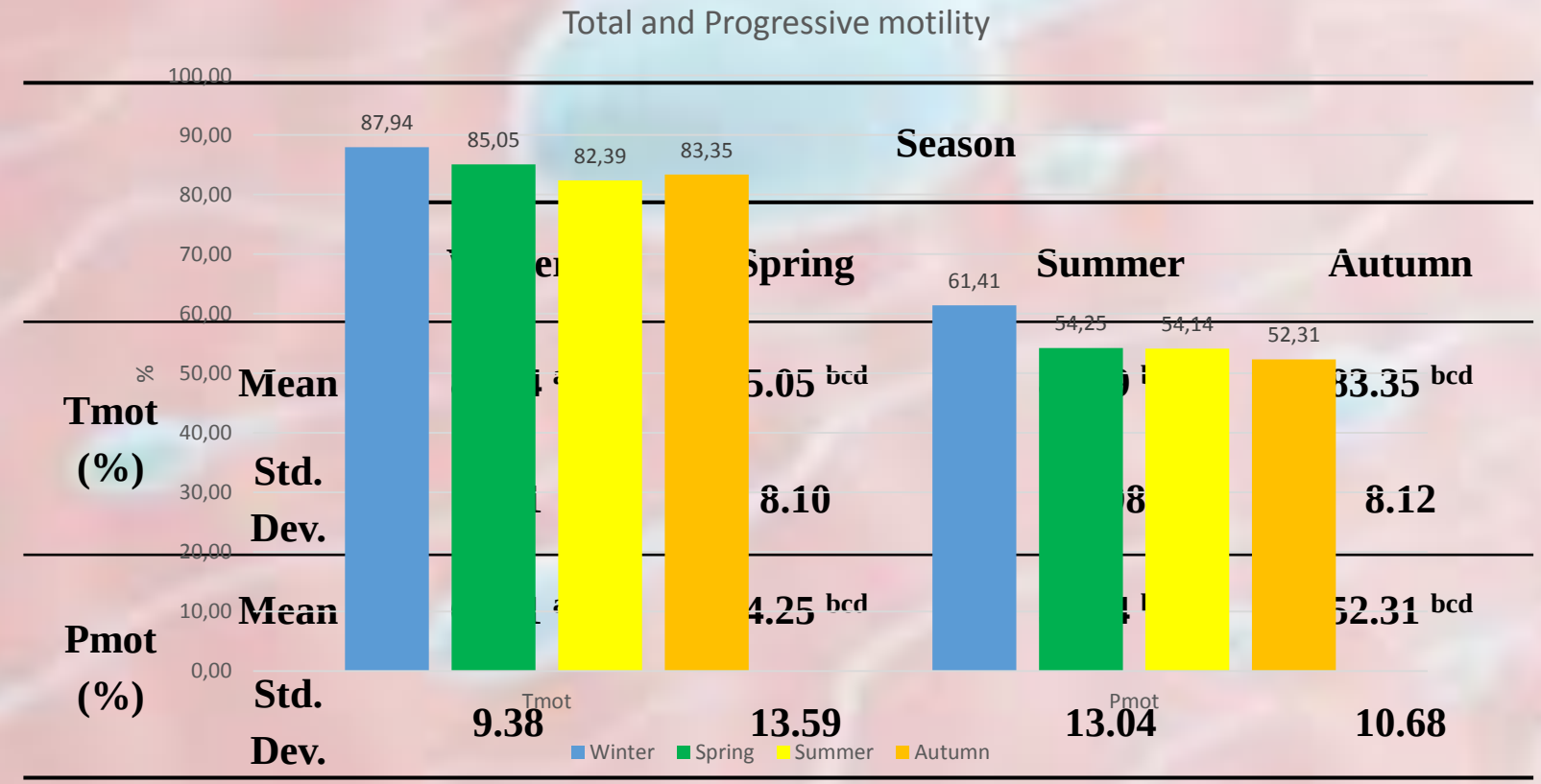
RESULTS AND DISCUSSION

Seasonal variation of total number of spermatozoa



RESULTS AND DISCUSSION

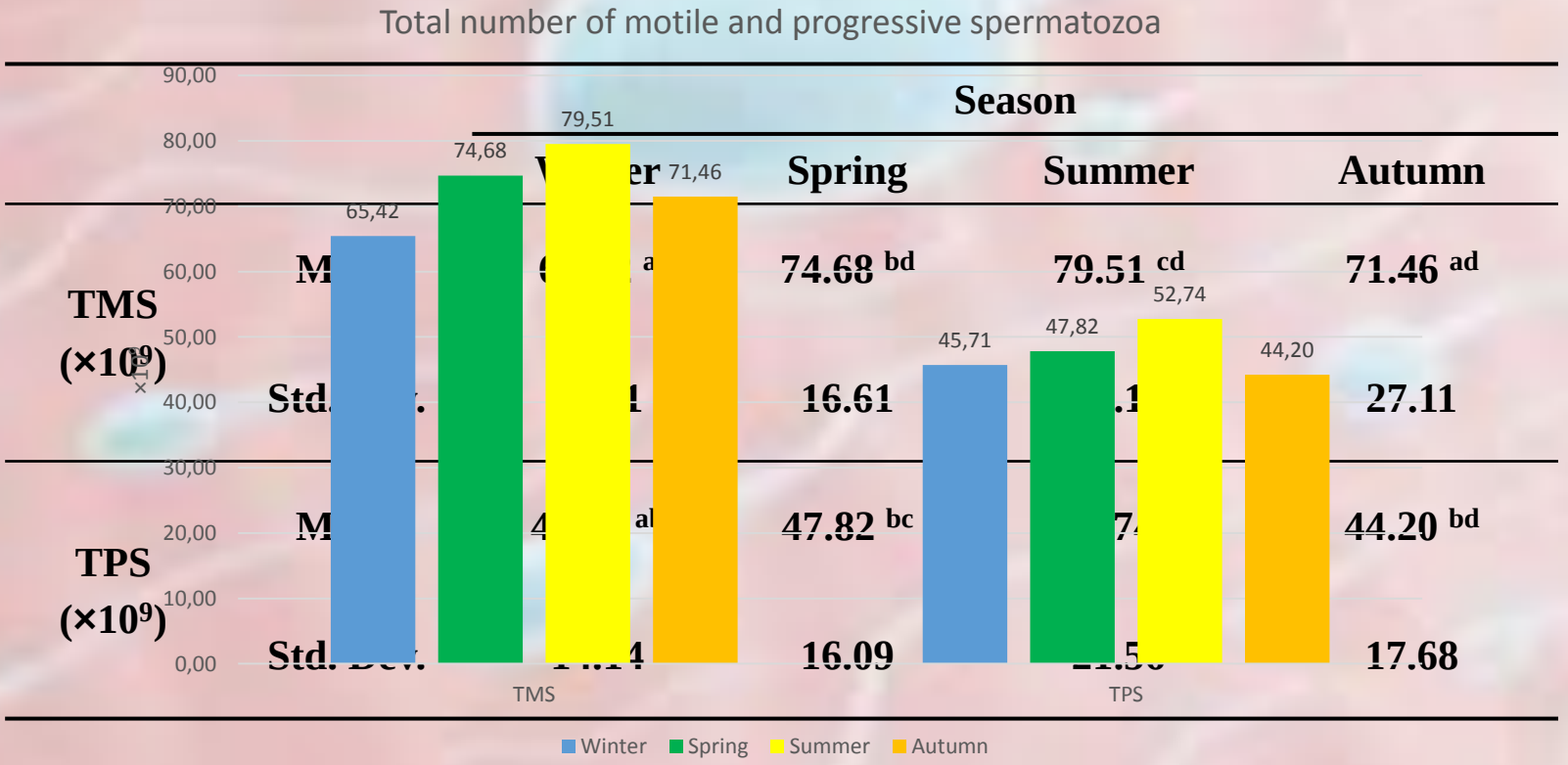
Seasonal variation of total and progressive motility



	Season	Winter	Spring	Summer	Autumn
Tmot (%)	Mean		5.05 bcd		83.35 bcd
	Std. Dev.		8.10		8.12
Pmot (%)	Mean		4.25 bcd		52.31 bcd
	Std. Dev.	9.38	13.59	13.04	10.68

RESULTS AND DISCUSSION

Seasonal variation of total number of motile sperm within the entire ejaculate, and of total number of progressive sperm within the entire ejaculate



	Season			
	Spring	Summer	Autumn
TMS (×10⁹)	74.68 bd	79.51 cd	71.46 ad
	16.61		27.11
TPS (×10⁹)	47.82 bc		44.20 bd
	16.09		17.68

CONCLUSIONS

During our study, the influence of the season on the main seminal parameters in boar was less visible than in other studies performed on this subject.

Moreover, while the majority of authors claim that during the summer the semen quantity is lower, we obtained higher values for semen volume and total number of spermatozoa/ejaculate.

These facts suggest that the standardization and optimization of the microclimate within the farm can reduce the stress on spermatogenesis in the summer, offering a good solution against seasonal infertility in pigs.

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