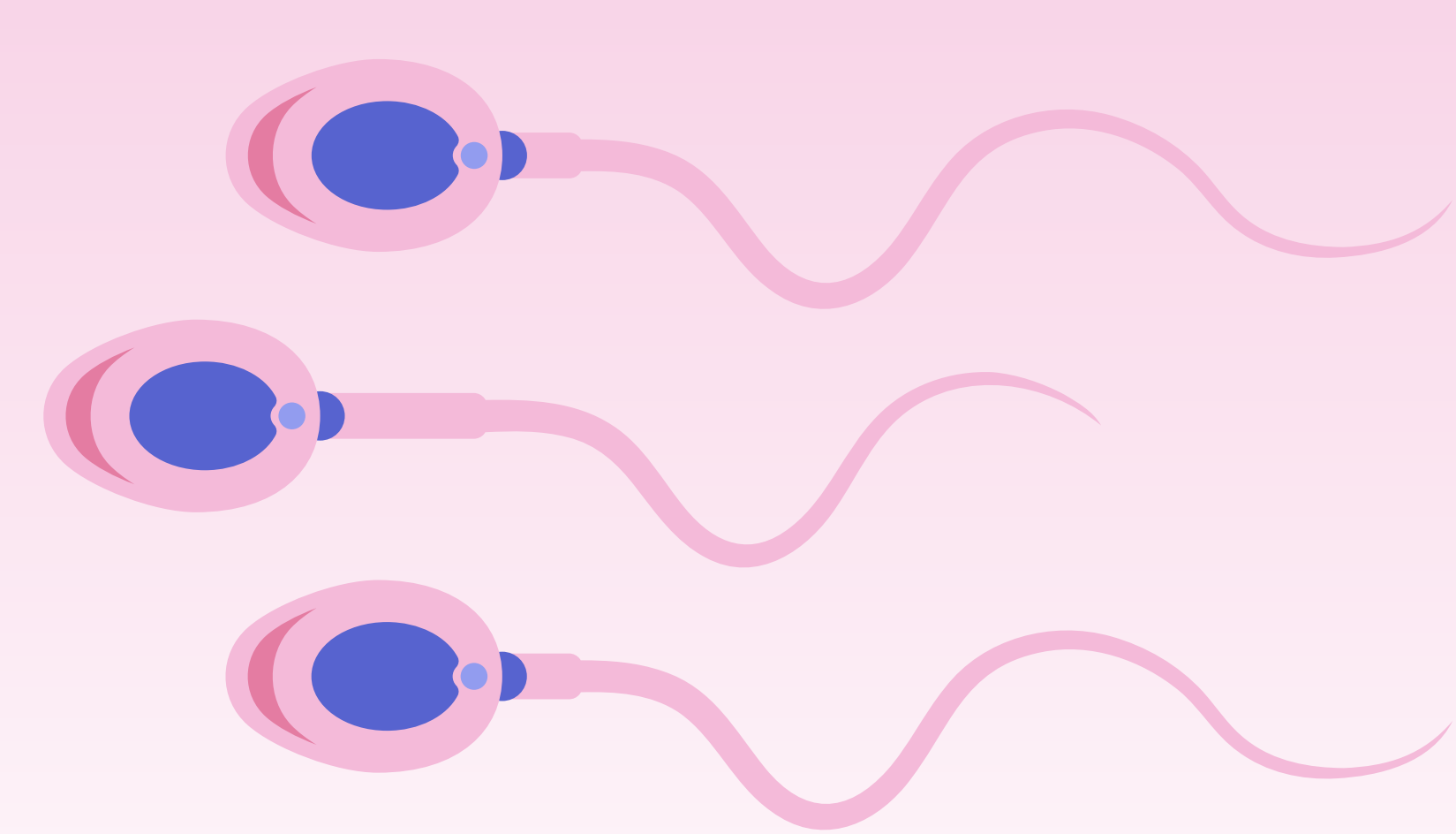


“RETROSPECTIVE STUDY FOR THAWED SPERM QUALITY PREDICTION IN CABRA BLANCA DE RASQUERA (CBR) BUCKS

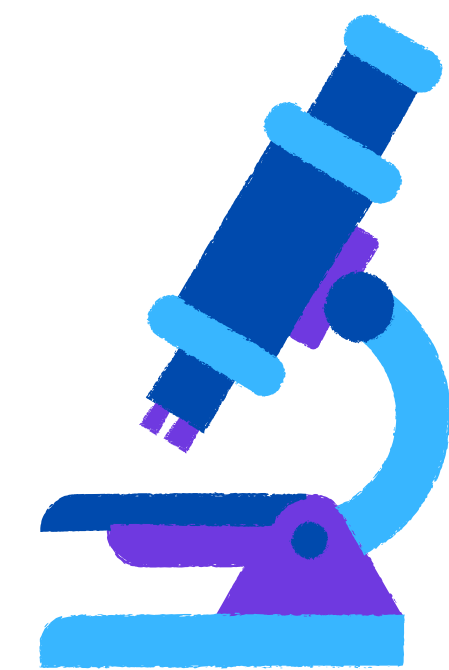
Sofía Luque Saavedra – FINAL DEGREE PROJECT – JUNE 2023



OBJECTIVES Predict post-thawed seminal quality of males suitable for semen freezing correlating thawed sperm quality parameters in adults with [melatonin], Scrotal Circumference (SC) and Body Weight (BW) at early ages. CBR sperm bank (endangered breed)

MATERIAL & METHODS n = 6 CBR ♂

SC (Scrotal Circumference) + Blood extraction [Melatonin] determination every month (June–December) and every 2 months (December–June) --> (9 – 21 months old). Semen extraction by artificial vagina (3 years old, n=6 males x 6 replicates in autumn): cryopreservation – post-thaw analysis.



RESULTS

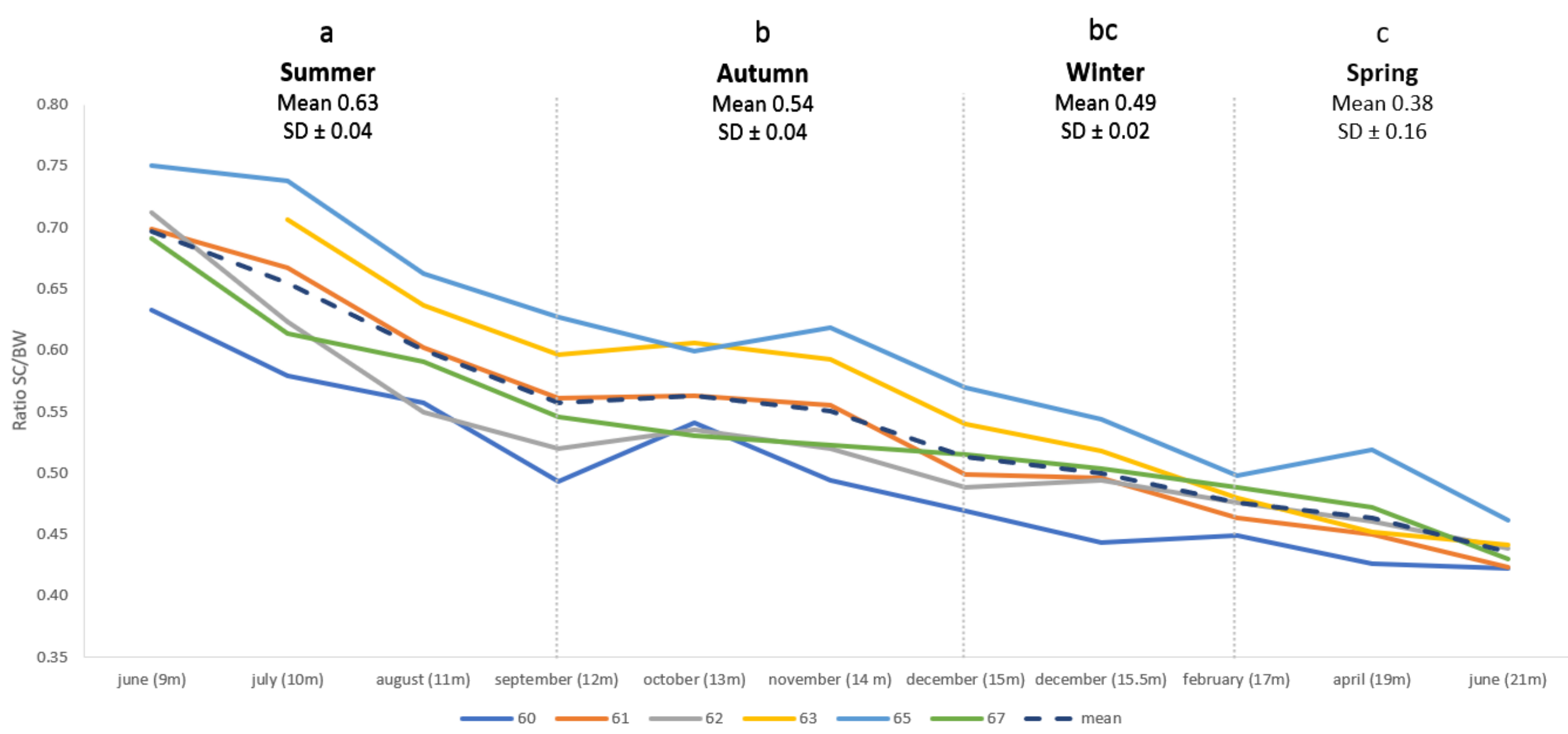
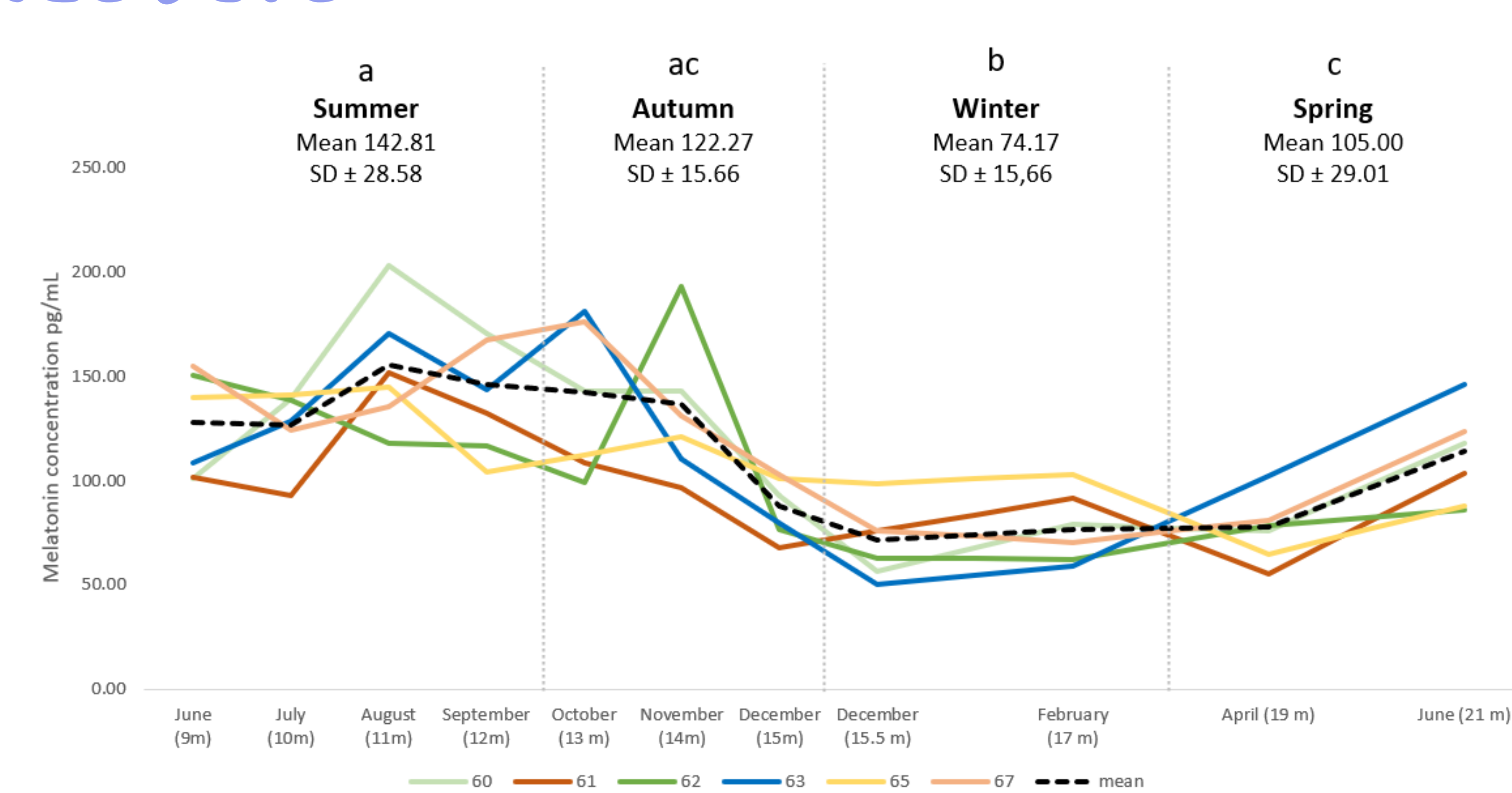


Table 3: Significant correlations between post-thawed semen and young male parameters during **decreasing photoperiod** (June-December) when males were 9 to 15 months old.

		<i>Bent tails (living sperm)</i>	<i>Total bent tails</i>
<i>Ratio SC/BW</i>		-0.35*	-0.37*
<i>SC</i>	<i>Viability</i>	-0.40**	<i>Total abnormalities</i>
		0.40**	
<i>Melatonin</i>		<i>Bent tail (dead sperm)</i>	
		0.34*	
<i>BW</i>	<i>Bent tail (living sperm)</i>		<i>Total bent tails</i>
	0.35*		
	<i>Bent tail (dead sperm)</i>		
		0.39*	0.41*

*P<0.05, **P<0.01. BW: body weight. SC: scrotal circumference. SC/BW ratio: the ratio between scrotal circumference and body weight

*P<0.05, **P<0.01. BW: body weight. SC: scrotal circumference. SC/BW ratio: the ratio between scrotal circumference and body weight

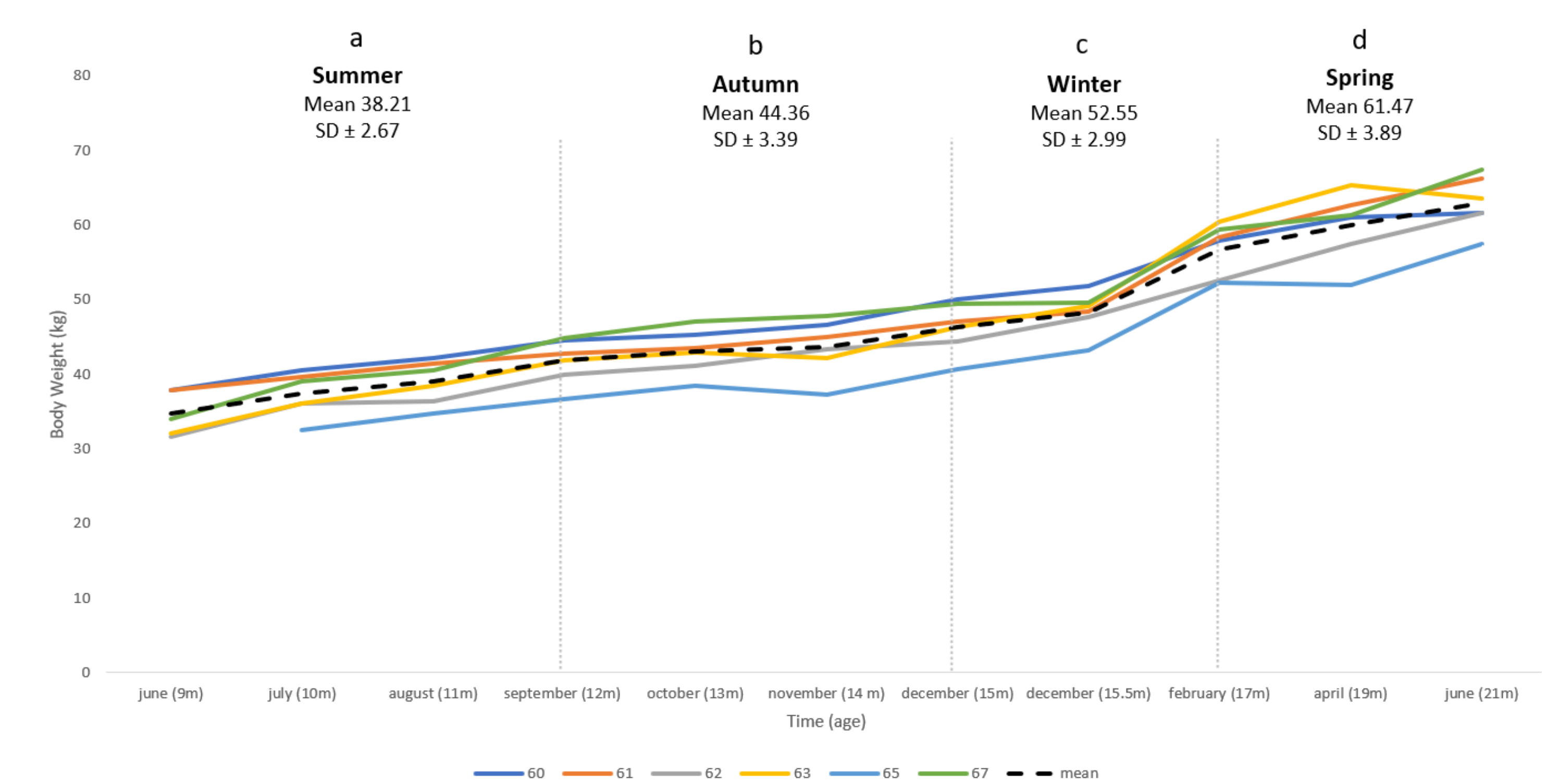
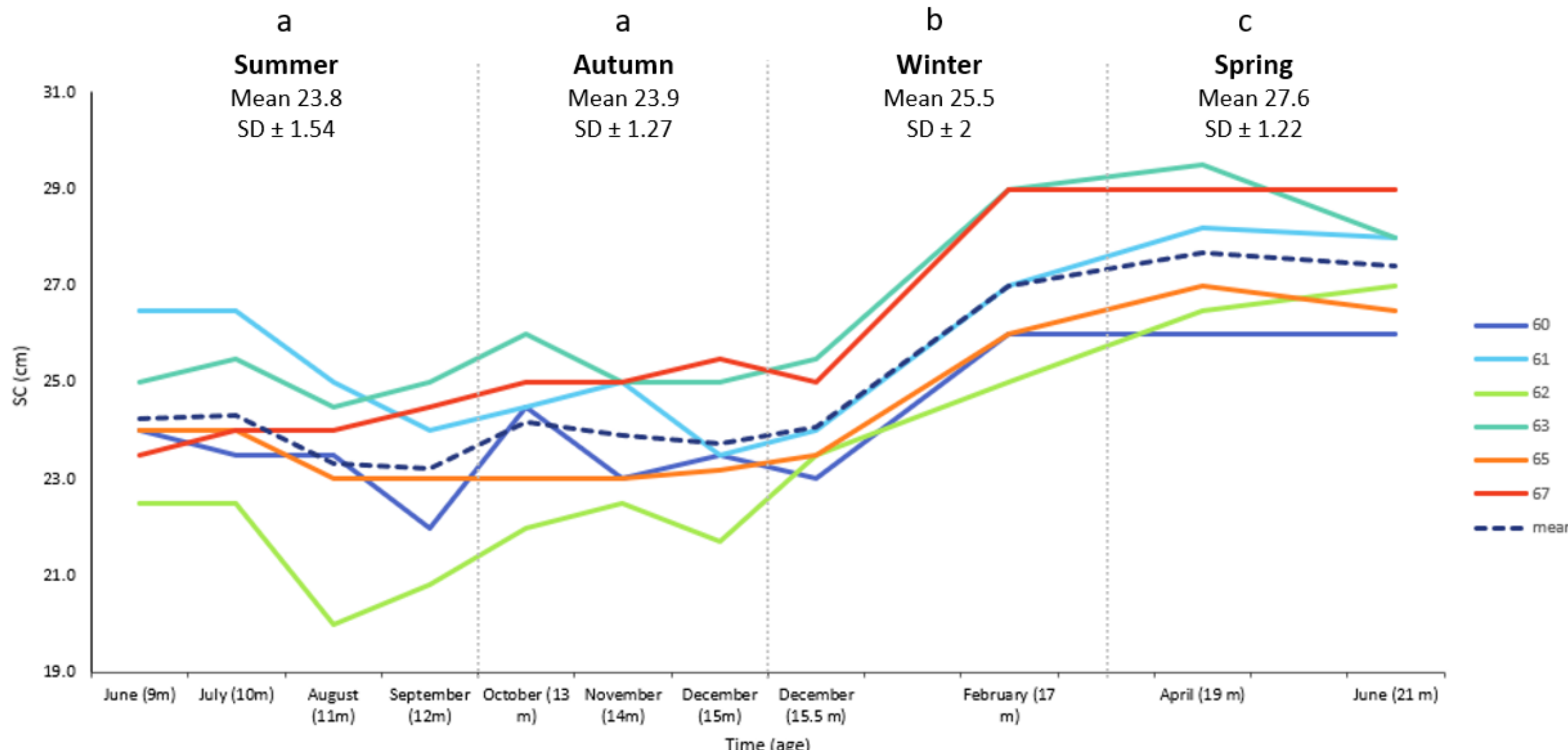


Table 4: Significant correlations between post-thawed semen and young male parameters during **increasing photoperiod** (January-June) when males were 16 to 21 months old

Ratio SC/BW	Bent tails (living sperm)	Total bent tails	Other abnormalities
	-0.4*	-0.43*	-0.43*
Melatonin	BW		
	0.46*		

*P<0.05, **P<0.01. BW: body weight. SC: scrotal circumference. SC/BW ratio: the ratio between scrotal circumference and body weight

Males	60	61	62	63	65	67
Viability (%)	48.2 ± 16.6 ^{ab}	37.5 ± 16.4 ^{ab}	46.3 ± 10.6 ^{ab}	26.6 ± 13.2 ^a	59.3 ± 10.5 ^b	55 ± 7 ^b

s represent significant differences (P≤0.05) between shown as means ± SD.

CONCLUSION

Given the importance of selecting good breeders, and taking into account the variability on viability of this breed, the investment in future research to obtain freezability biomarkers such as the one found in our study, SC/BW at early ages, seems to be necessary.

