Camel Semen Collection, Processing and Preservation

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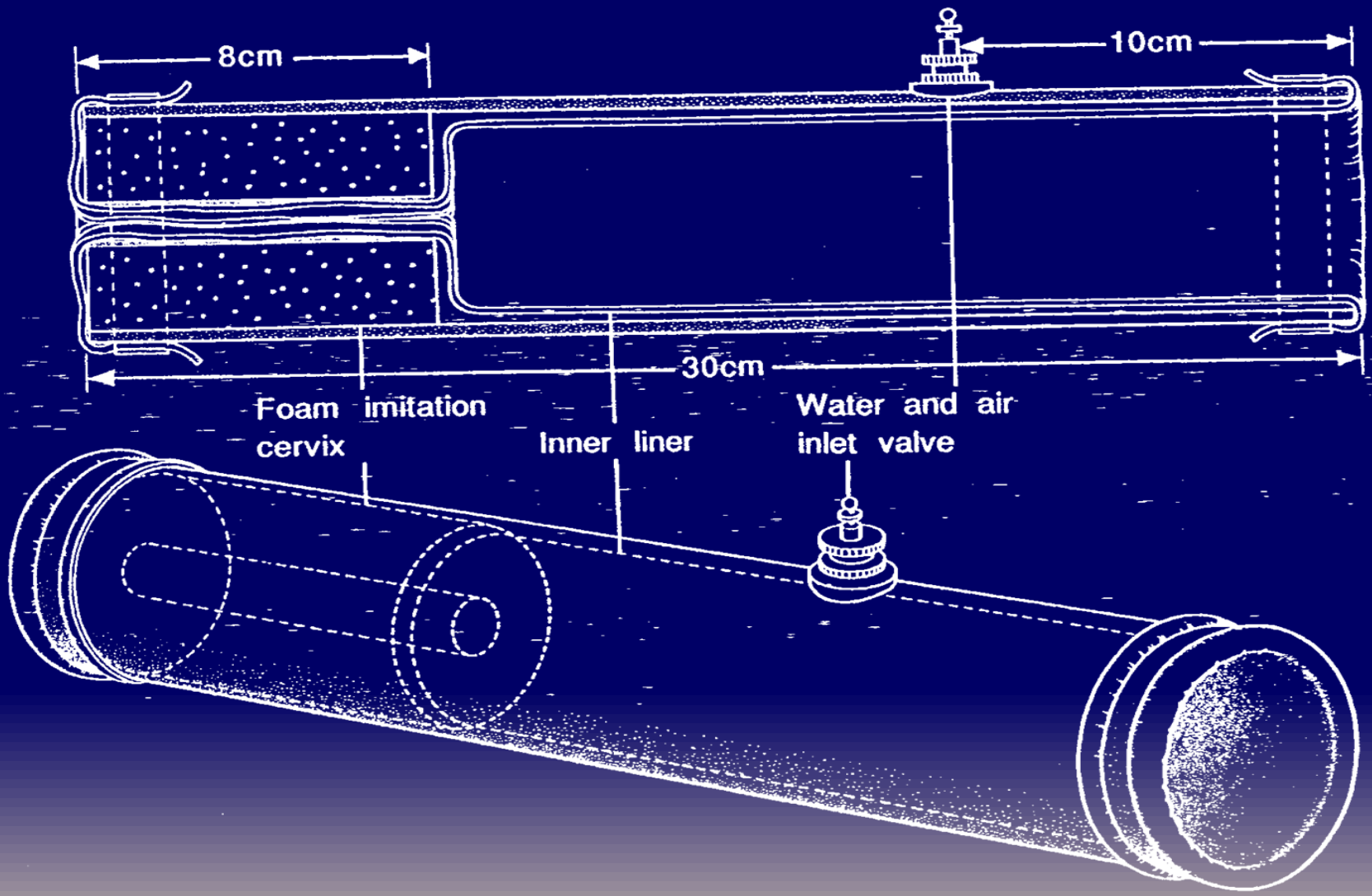
Modified Artificial Vagina



Preparation of Artificial Vagina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Camel Phantom
10 02 2013
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Camel Phantom

Ziapour, S., Niasari-Naslaji, A., et al. (2014). Semen collection using phantom in dromedary camel. *Animal* Reproduction *Science.* 151: 15-21.

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Semen viscosity is a great problem
in semen processing in camel
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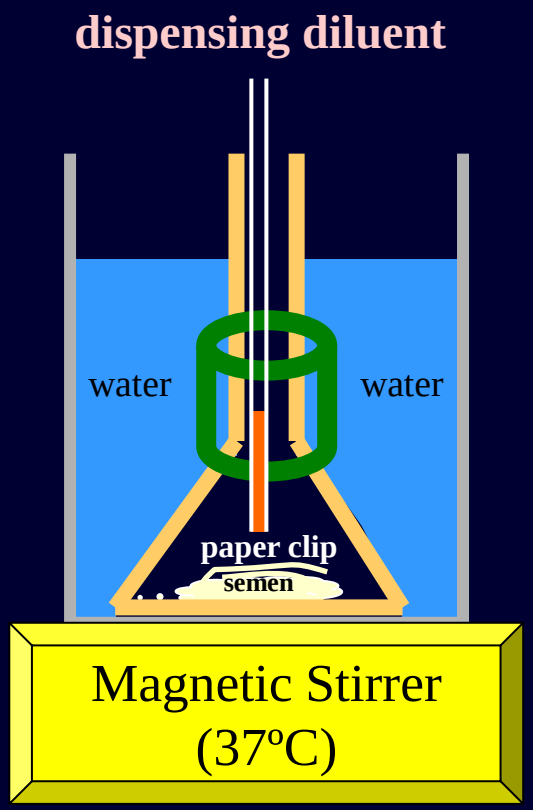
Semen Processing



Parameters	N	Mean ±SE	Min	Max
Collection time (min)	63	5.3 ±0.29	2.5	11
Volume (ml)	69	8.2±0.7	1.2	26
Osmolality (mOsm/kg)	53	**316.1±1.48**	300	348
PH	44	**7.4 ± 0.3**	7.1	7.9
Concentration (x10^6/ml)	52	414.8 ±25.24	133	945
Motility (%)	27	62.4 ±1.57	46	77
Live (%)	26	85.6 ±1.15	65	93

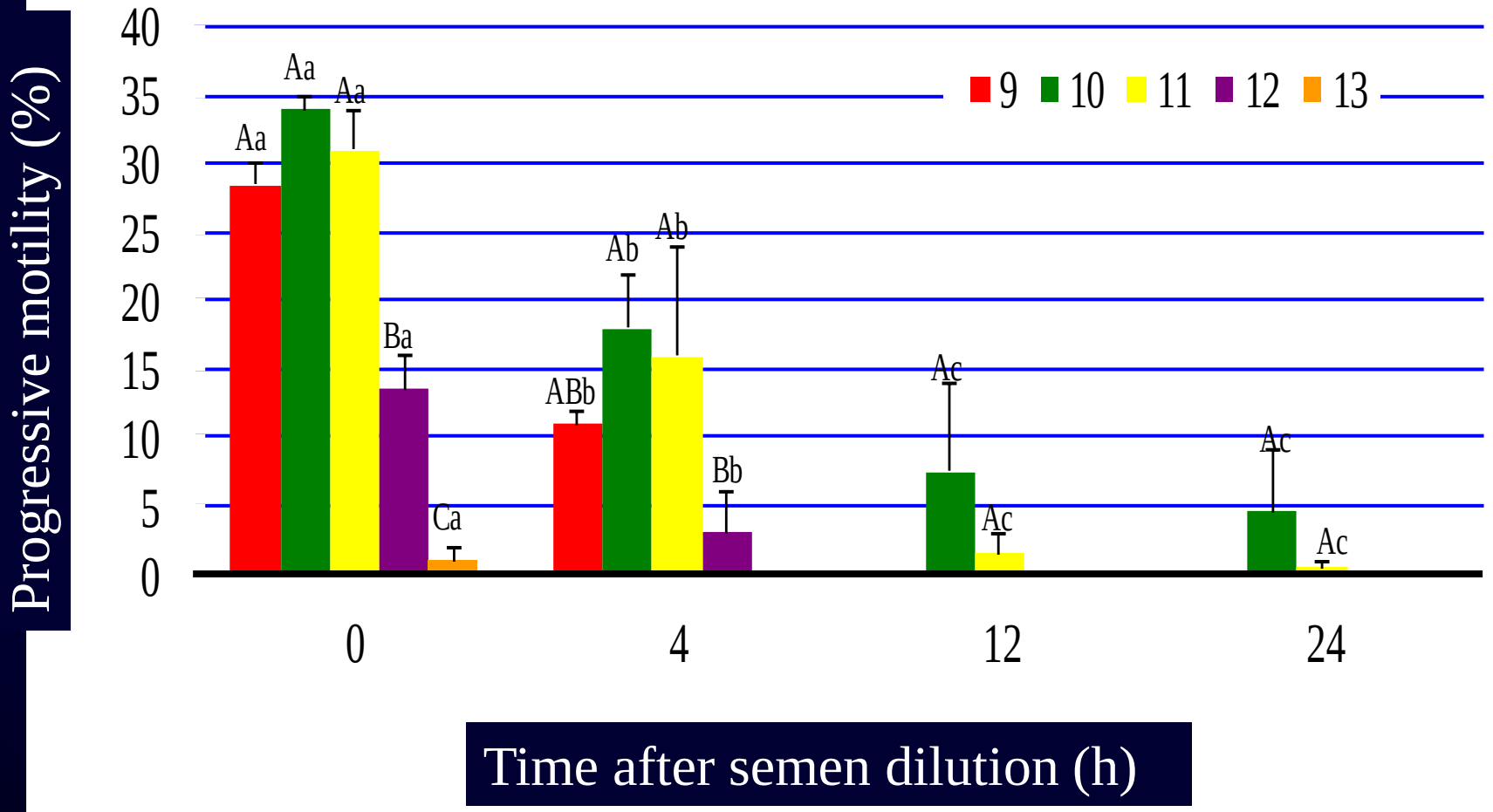
Mosaferi, S. et al. (2005). Theriogenology, 63: 92-101.

Lactose

Concentration (%)	Osmolality (mOsm/kg)
9	290
10	333
11	350
12	376
13	419

PH:6.9

The effect of different lactose osmolality on ...



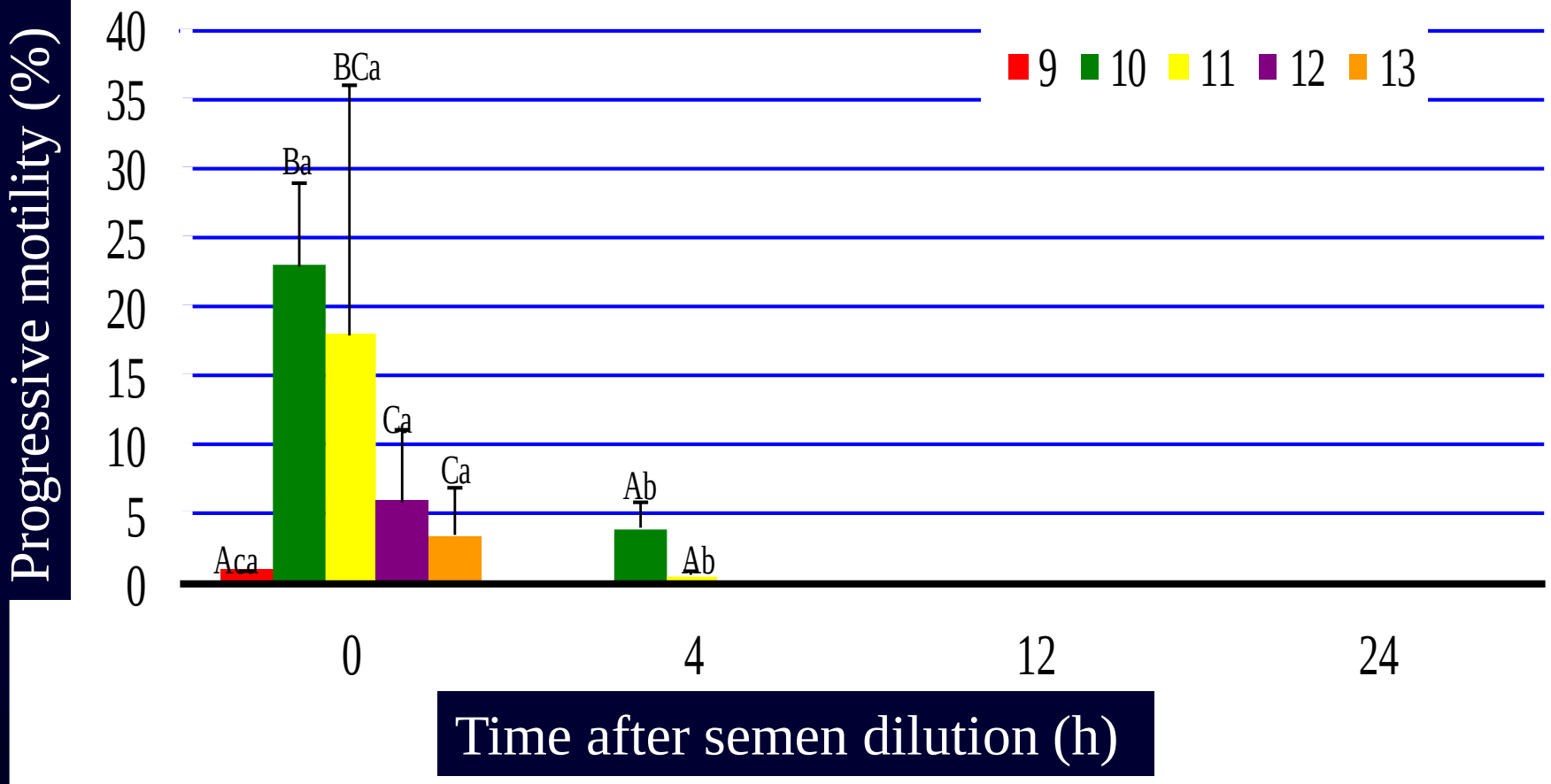
Niasari-Naslaji, A. et al. (2006). Iranian Journal of Veterinary Research. 7: 14-22.

Sucrose

Concentration (%)	Osmolality (mOsm/kg)
9	292
10	331
11	356
12	386
13	410

PH:6.9

The effect of different sucrose osmolarity on ...

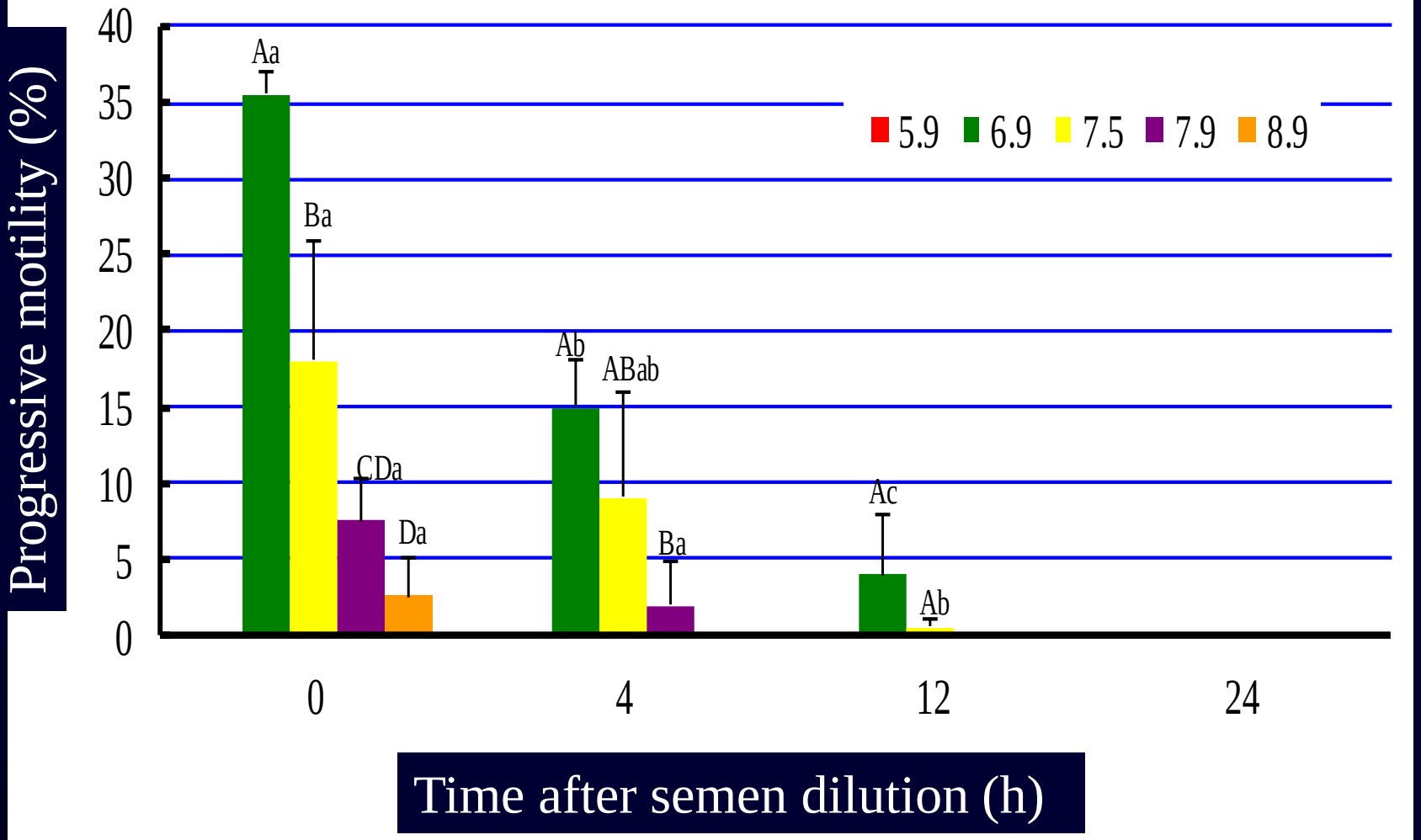


Niasari-Naslaji, A. et al. (2007). Pajouhesh va Sazandegi. 75: 111-117.

10% Lactose = Osmolality: 333 mOsm/kg

PH: 5.9, 6.9, 7.5, 7.9, 8.9

The effect of different pH on ...



Nutural osmolality and pH of semen:

316.1±1.48

7.4 ± 0.3

The best osmolality and pH of Lactose and Sucrose extenders:

330

6.9

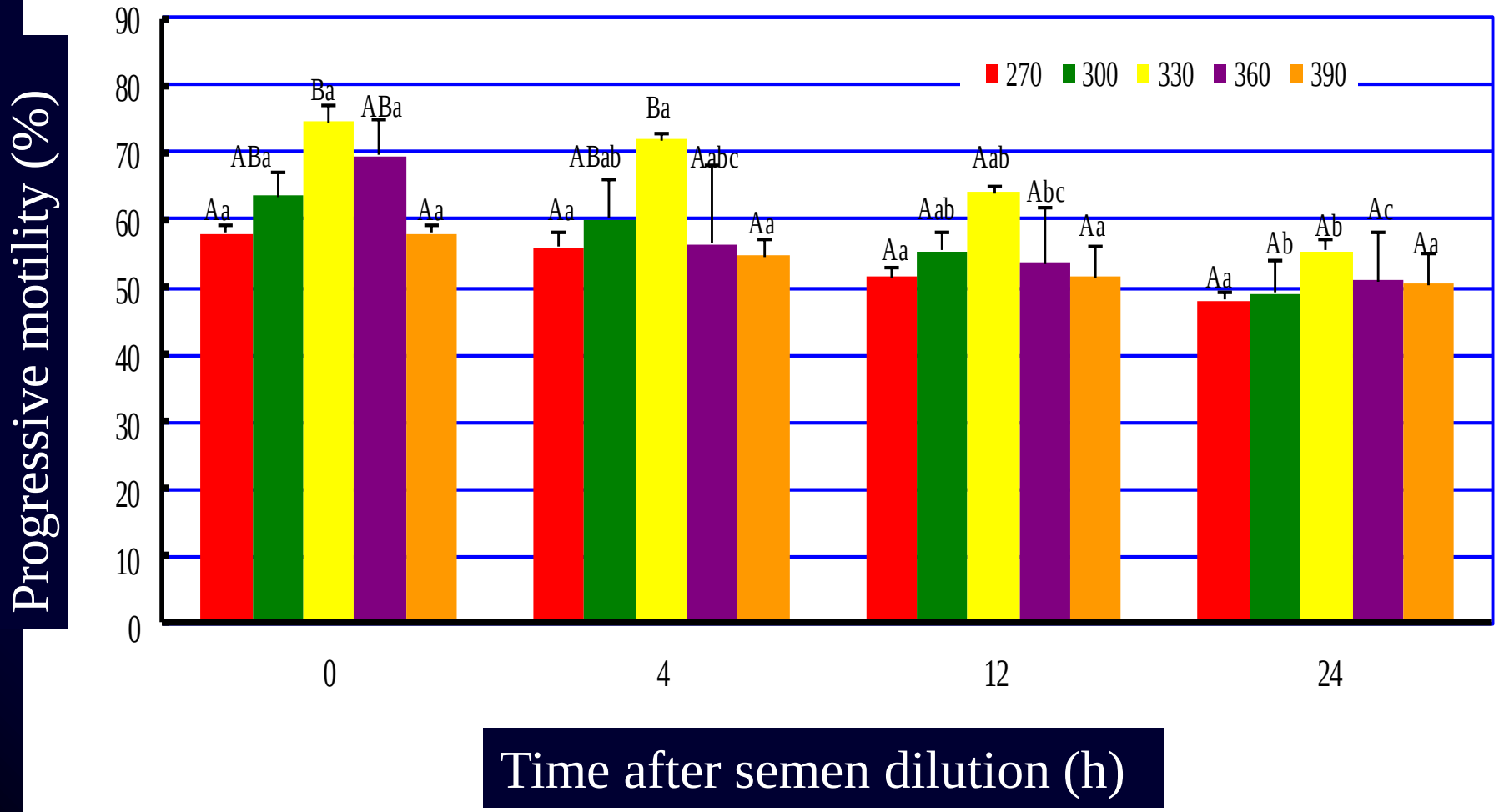
Tris-based extender (SHOTOR Diluent)

Osmolality (mOsm/kg)	Concentration (mM)			
	Fructose	Glucose	Citric acid	Tris
270	33.3	33.3	64.2	214
300	44.4	44.4	64.2	214
330	49.9	66.6	64.2	214
360	72.1	72.1	64.2	214
390	88.8	88.8	64.2	214

SHOTOR means camel in persian language.

PH:6.9

The effect of different Tris concentration on ...

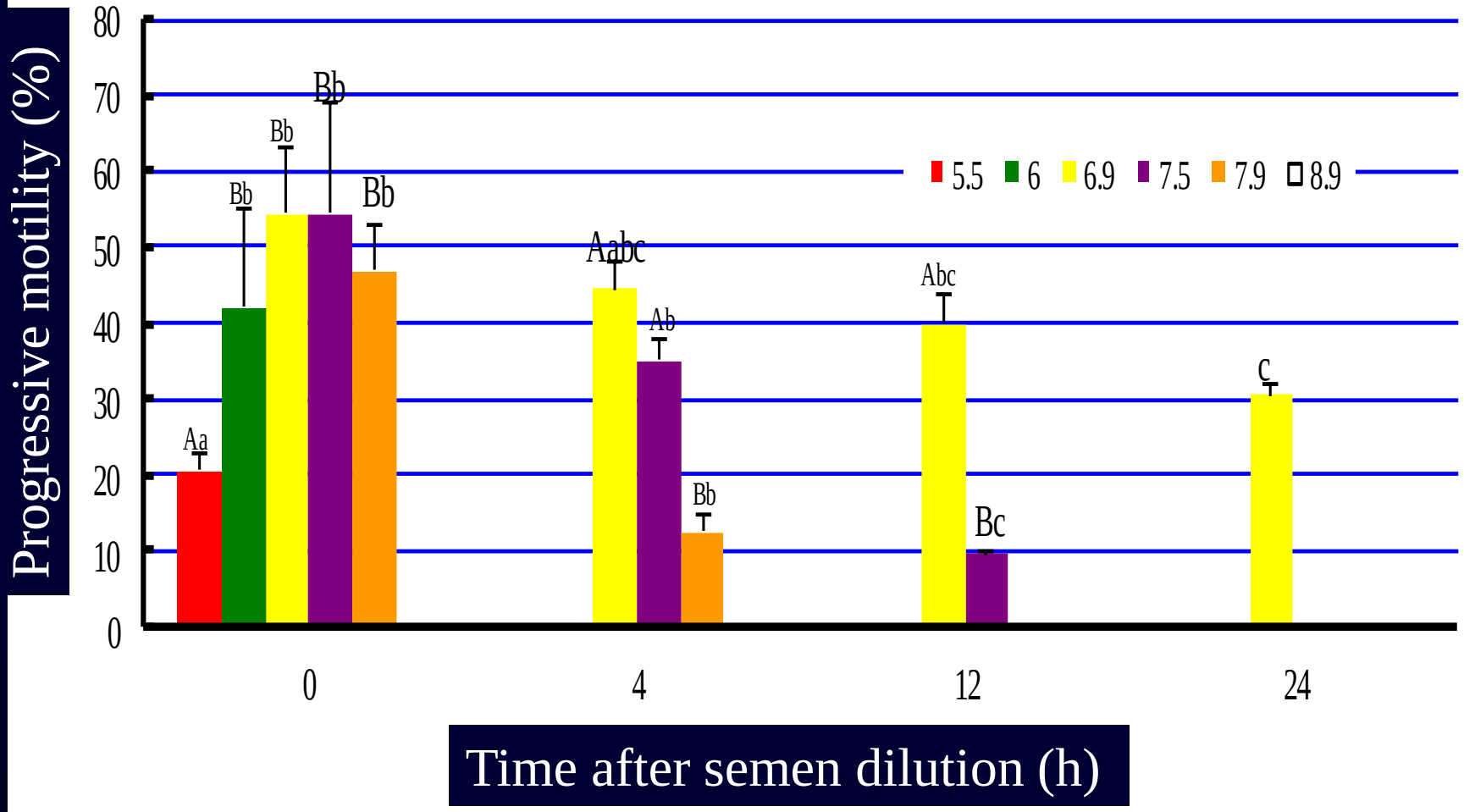


Niasari-Naslaji, A. et al. (2006). Cryobiology, 53: 12-21.

Tris based extender without citric acid
Osmolality: 330 mOsm/kg
pH: 8.9

PH was adjusted with citric acid to:
5.5, 6, 6.9, 7.5, 7.9, 8.9

The effect of different PH on …



Niasari-Naslaji et al., 2006. Cryobiology, 53: 12-21.

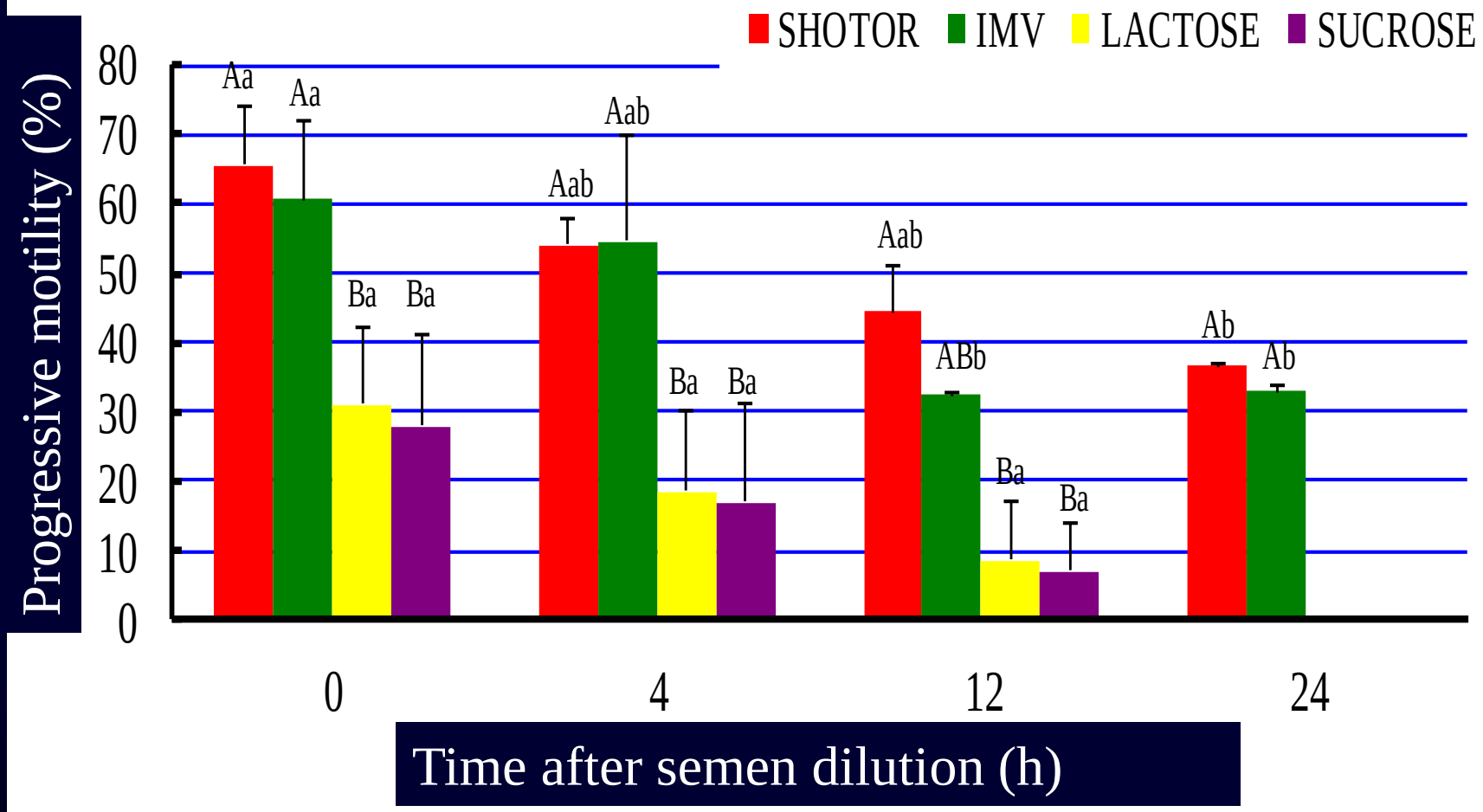
10% Lactose

10% Sucrose

SHOTOR diluent

Green buffer (IMV)

The effect of different diluents on …



Niasari-Naslaji et al., 2006. Cryobiology, 53: 12-21.

Cryopreservation Trials

Rate of Cooling to 4ºC

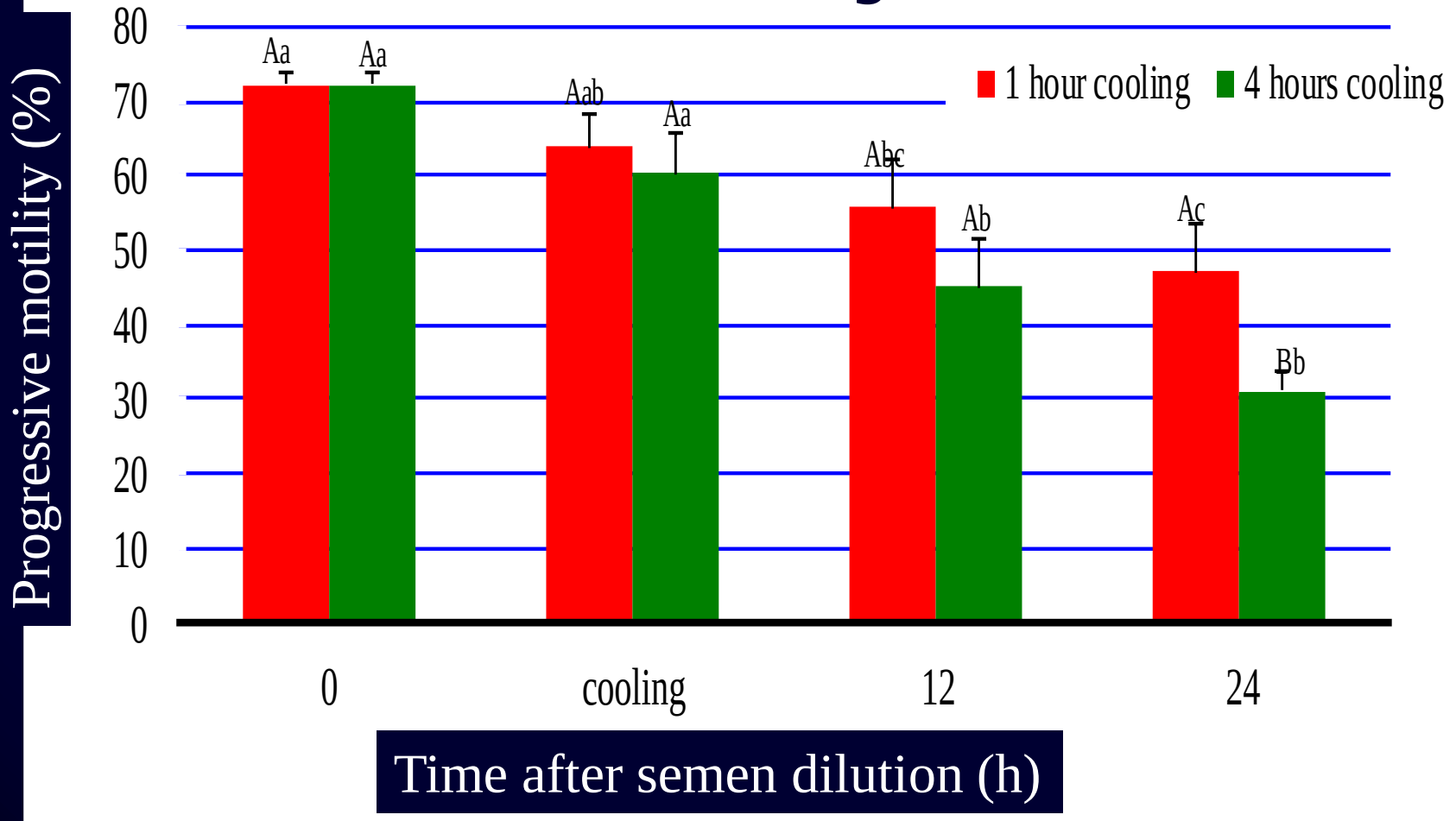
Percentage of Glycerol

SHOTOR diluent v.s IMV extenders

Rate of Cooling

SHOTOR diluent
Cooling to 4ºC in 1 hour
Cooling to 4ºC in 4 hours

The effect of cooling rate on ...

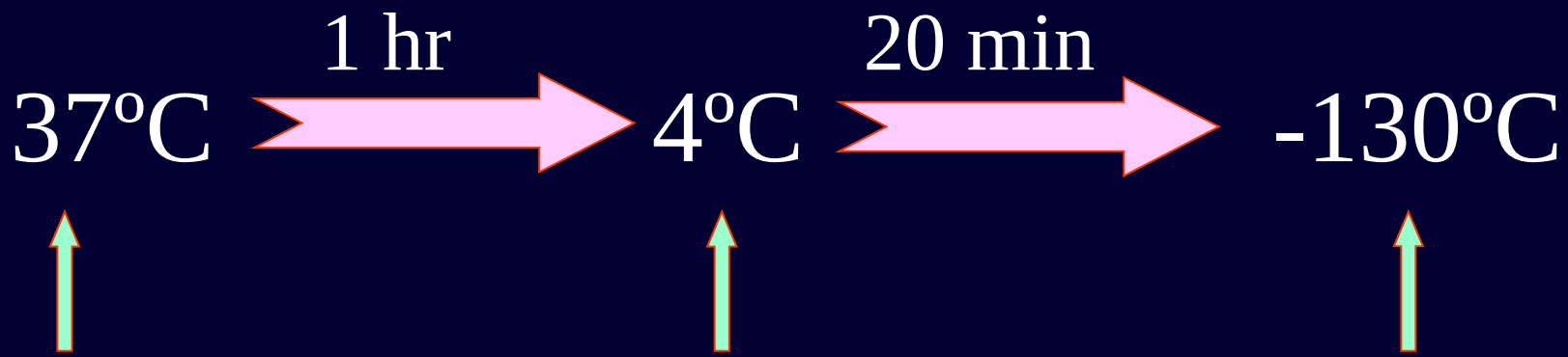


Niasari-Naslaji, A. et al. (2007). Theriogenology, 68: 618-625.

Percentage of Glycerol

4, 6 and 8%

Freezing and Thawing Procedure



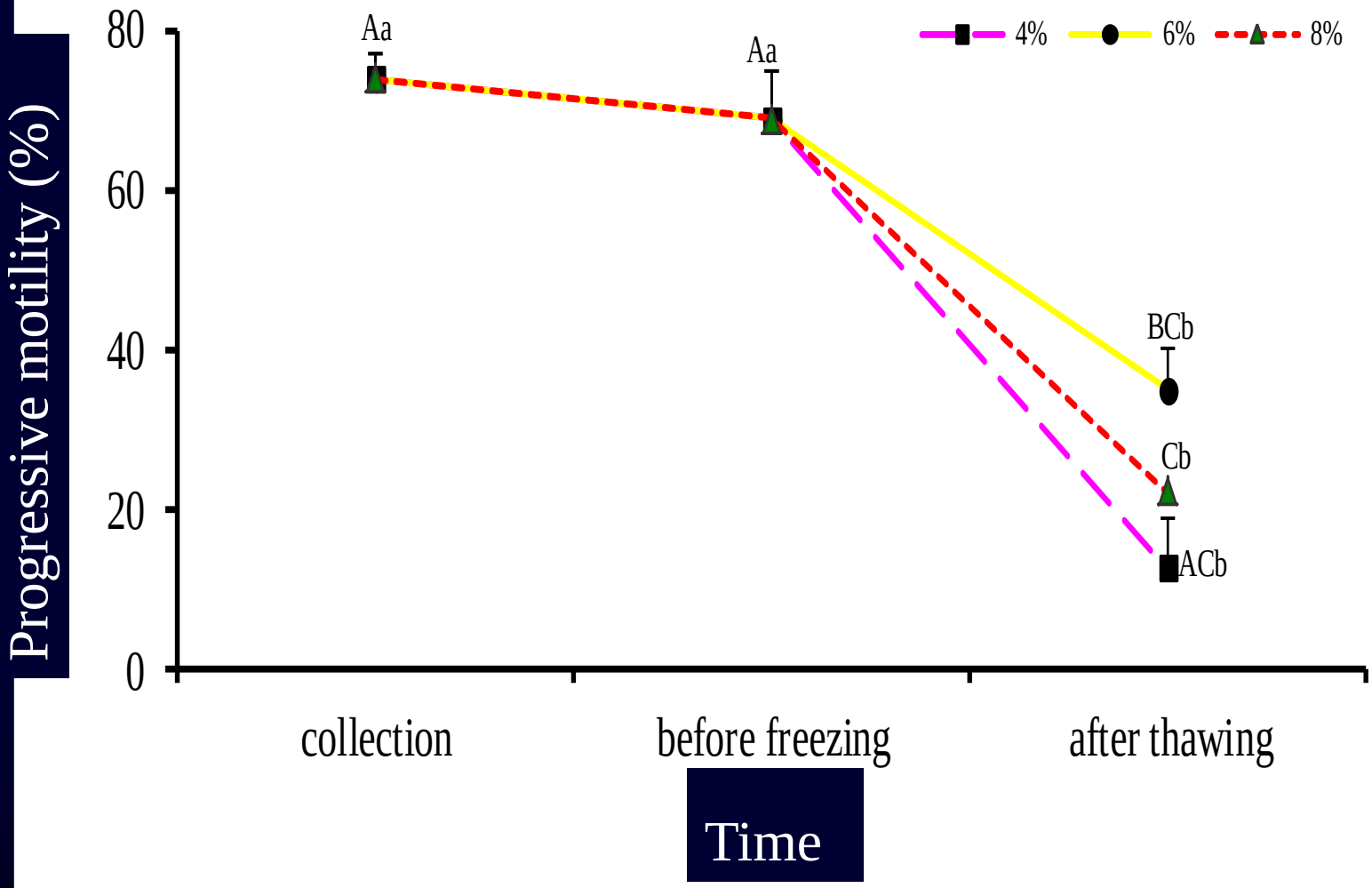
Add1st extender (w/o glycerol)

- Add 2nd extender (with glycerol)
- Fill in 0.5 ml straws

Plunge into LN2

Thawing at 40ºC for 20 seconds

The effect of Glycerol concentration on …



Niasari-Naslaji, A. et al. (2007). Theriogenology, 68: 618-625.