المعهد الوطني للبحث الزراعي
Institut National de la Recherche Agronomique

Session 15

bouchraelamiri@hotmail.com

Characteristics of ram semen collected from Boujaâd sheep breed in Morocco under fresh conservation

Authors: Talbi, El Amiri, Derqaoui, El Bennani, Hilali, Druart

Presented by: Bouchra El Amiri
INRA, Regional Centre of Settat, Morocco

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Introduction

In **Morocco** sheep husbandry is an important activity in rural areas. Its herd inventory of 16 million heads

In generale, Livestock production sector contributes

- Up to 30 % to the Agricultural Gross Domestic Product (GDP)
- 5 % to the total GDP.
- It is practiced by 74% of Moroccan farmers.
- It provides job opportunities for 70 % of rural active population of which 20 % live exclusively from livestock.

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Moroccan meat consumption still low (14 kg per capita and per annum) and mutton meat contribution to this consumption is less than one third.

1. low reproductive efficiency

2. lambs low growth performance

Improve the situation of meat production in Morocco, two complementary options are envisioned:

1. Increase the number of young animals weaned by female and per year;

2. Improve the genetic make up of the exploited flocks.

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Boujaâd Breed x IA

Low productivity is due to several factors including

The extensive management which is subject to unpredictable weather

Seasonality of reproduction.

Lack of good animals and the lack of connections between farms contribute to this poor ropductivity

Animals with high potential are generally reared by breeders who follow the instructions of ANOC and they are interchangeable only within this network

IA = semen/ synchronisation/ Pregnancy diagnosis

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Objective

the aim of this study is to monitor the quality of fresh semen during the period of march-may conserved under two diluents from short to long time.

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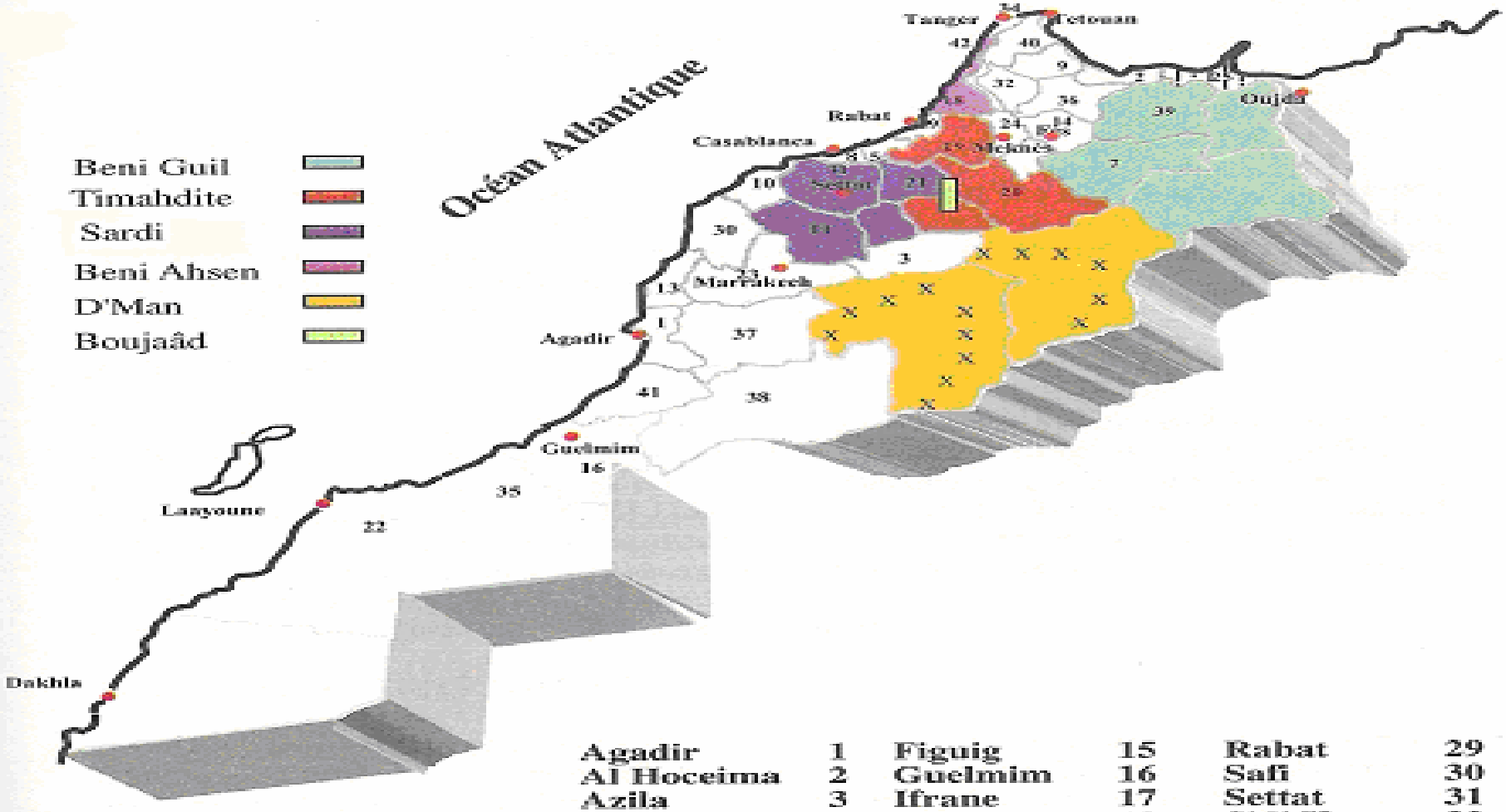
Material and methods

Rams : n = 9

Age 2 to 3 years

group I : light



Agadir	1	Figuig	15	Rabat	29
Al Hoceima	2	Guelmim	16	Safi	30
Azila	3	Ifrane	17	Settat	31
Béni Mellal	4	Kenitra	18	Sidi Kacem	32
Benslimane	5	Khémisset	19	Smara	33
Boujdour	6	Khénifra	20	Tanger	34
Boulemane	7	Khouribga	21	Tantan	35
Casablanca	8	Laâyoune	22	Taounate	36
Chefchaouen	9	Marrakech	23	Taroudant	37
El Jadida	10	Meknès	24	Tata	38
El Kelaâ	11	Nador	25	Taza	39
Errachidia	12	Ourzazate	26	Tétouan	40
Essaouira	13	Oued Dhab	27	Tiznit	41
Fès	14	Oujda	28	Larache	42

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Techniques/ measurements

Length (TL) and diameter (TD)

The epididymal diameter (DE)

The scrotal circumference (Sc)

The rams were trained and collected by means of an artificial vagina at 40°C

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Period : During three weeks from April to may
After collection the ejaculates were assessed for mass movement,

progressive motile and

concentration.

The semen was then divided to two parts and diluted at ratio 1:4 by Tris/egg-yolk glucose or skim milk.

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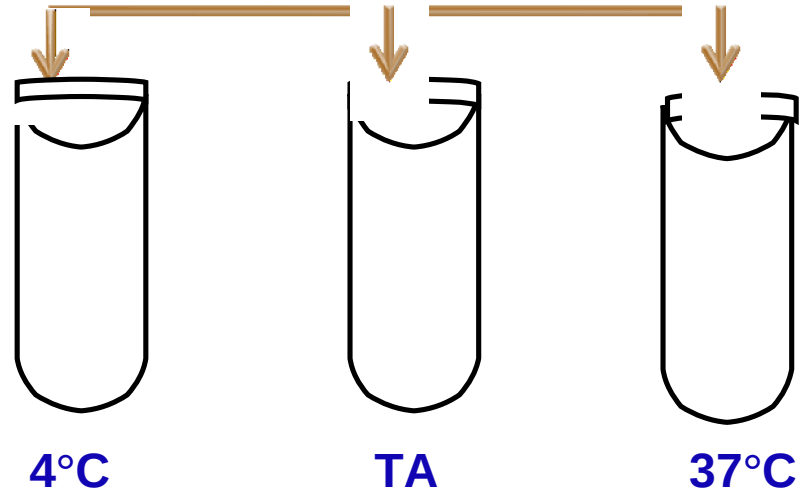
For each extender

Different hours of conservation : 1, 2, 4, 8, 24, 48 72, 86, 120 hours and 144 hours



Total motile

progressive motile

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Results and discussion

		March		April		May	
		Group 1	Group 2	Group 1	Group 2	Group 1	Group 2
	Weight (kg)	44.5±5.93	70.25±3.18	44.25±6.5	74.5±4.02	41±5.47	65.5±2.12
Testis parameters	TL	7.59 ±0.81	9.06±0.77	8.13±0.65	10.02±0.81	8.33±0.545	10.20±0.71
	TD	5.42±0.16	6.21±0.43	5.45±0.24	6.34±0.46	5.63±0.15	6.46±0.38
	DE	2.73±0.09	2.91±0.30	2.69±0.05	2.99±0.25	2.74±0.03	3.02±0.27
	SC	27.5±1.20	31.75±2.22	28.56±0.55	32.37±2.01	29.18±0.96	32.87±2.10
Semen quality parameters	Volume	1.07±0.10	1.33±0.14	1±0.28	0.96±0.22	0.67±0.17	1.18±0.35
	Total motility	3.5±0.70	4±1.32	5±0	4.93±0.12	4.87±0.17	4.75±0.28
	Progressive	67.5±3.53	70.83±13.76	92.5±3.53	91.25±4.33	81.25±1.76	85.625±3.75
	Concentration	3.6±0.96	3.62±1.00	2.55±0.77	3.27±0.63	2.87±0.69	3.59±0.76

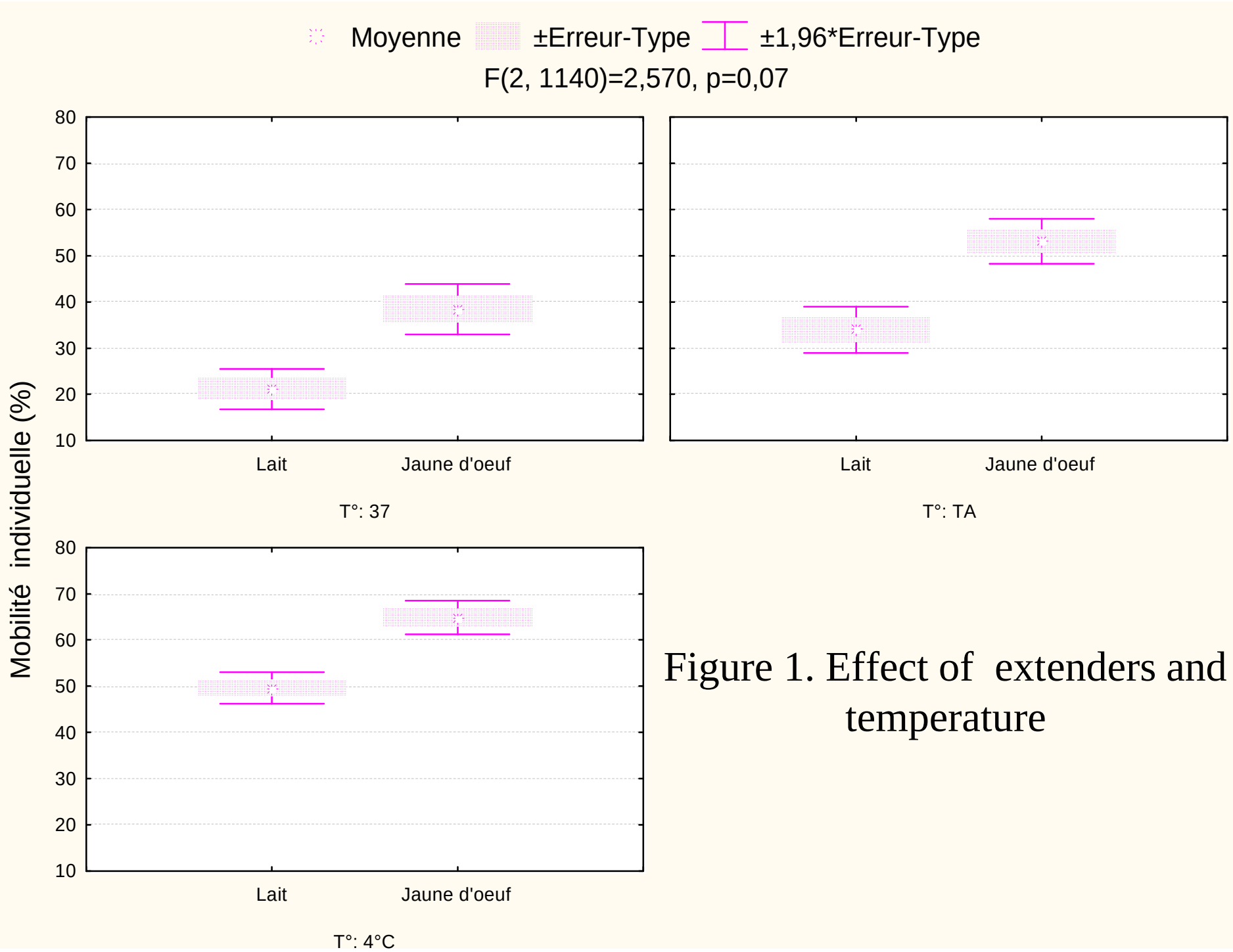

Figure 1. Effect of extenders and temperature

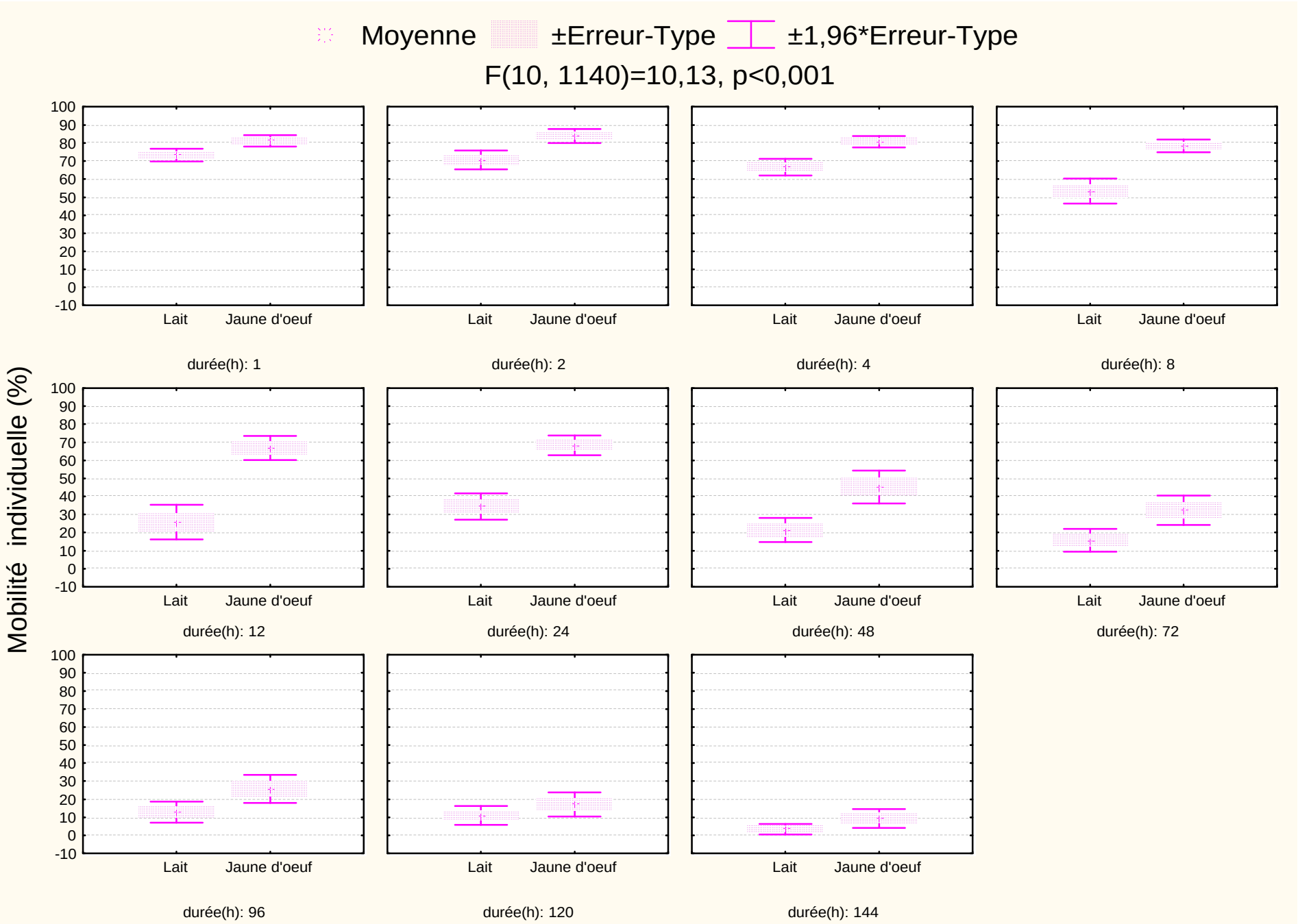

Figure 2. Effect of extenders and hours of conservation

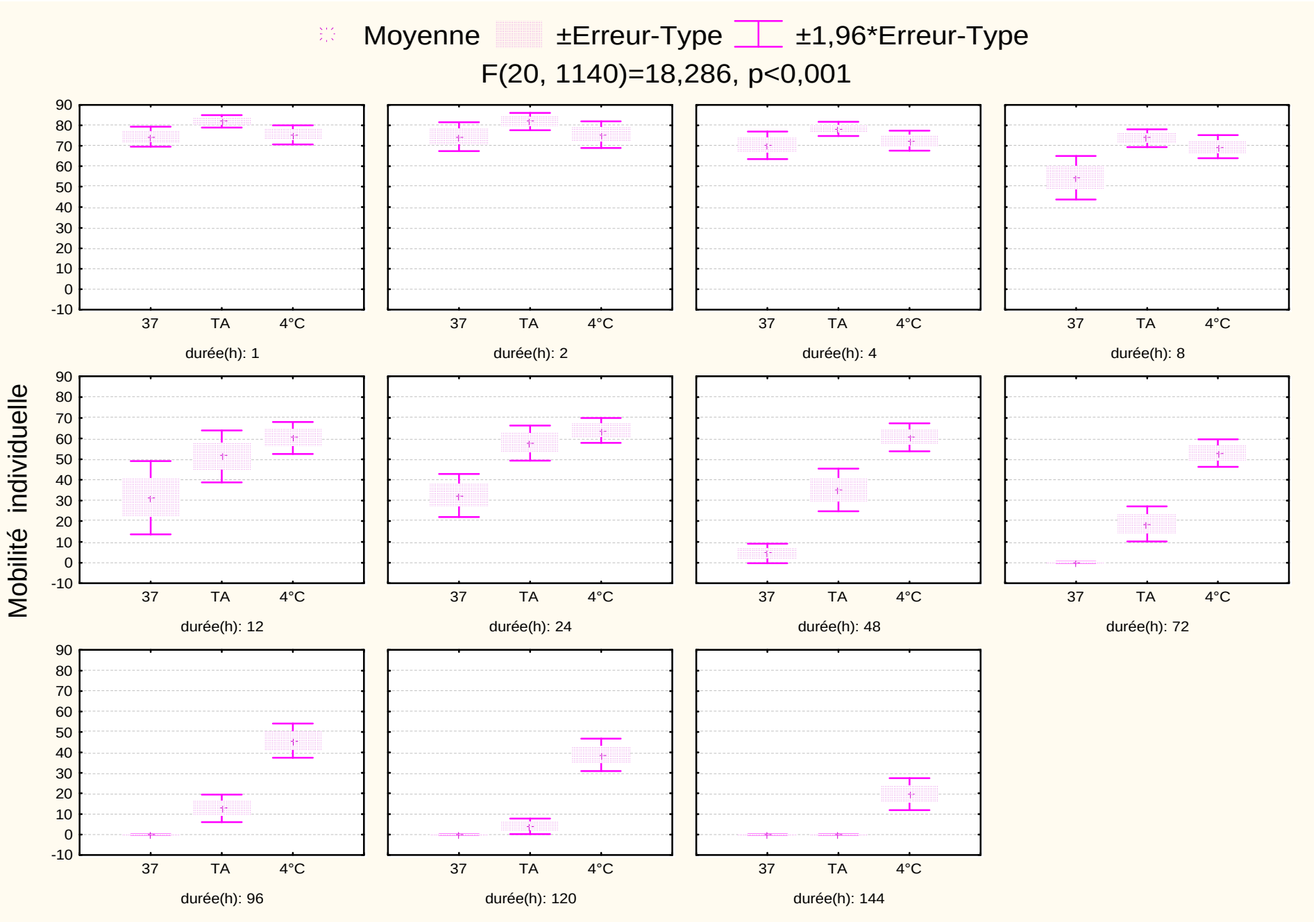

Figure 3. Effect of temperature on conservation duration

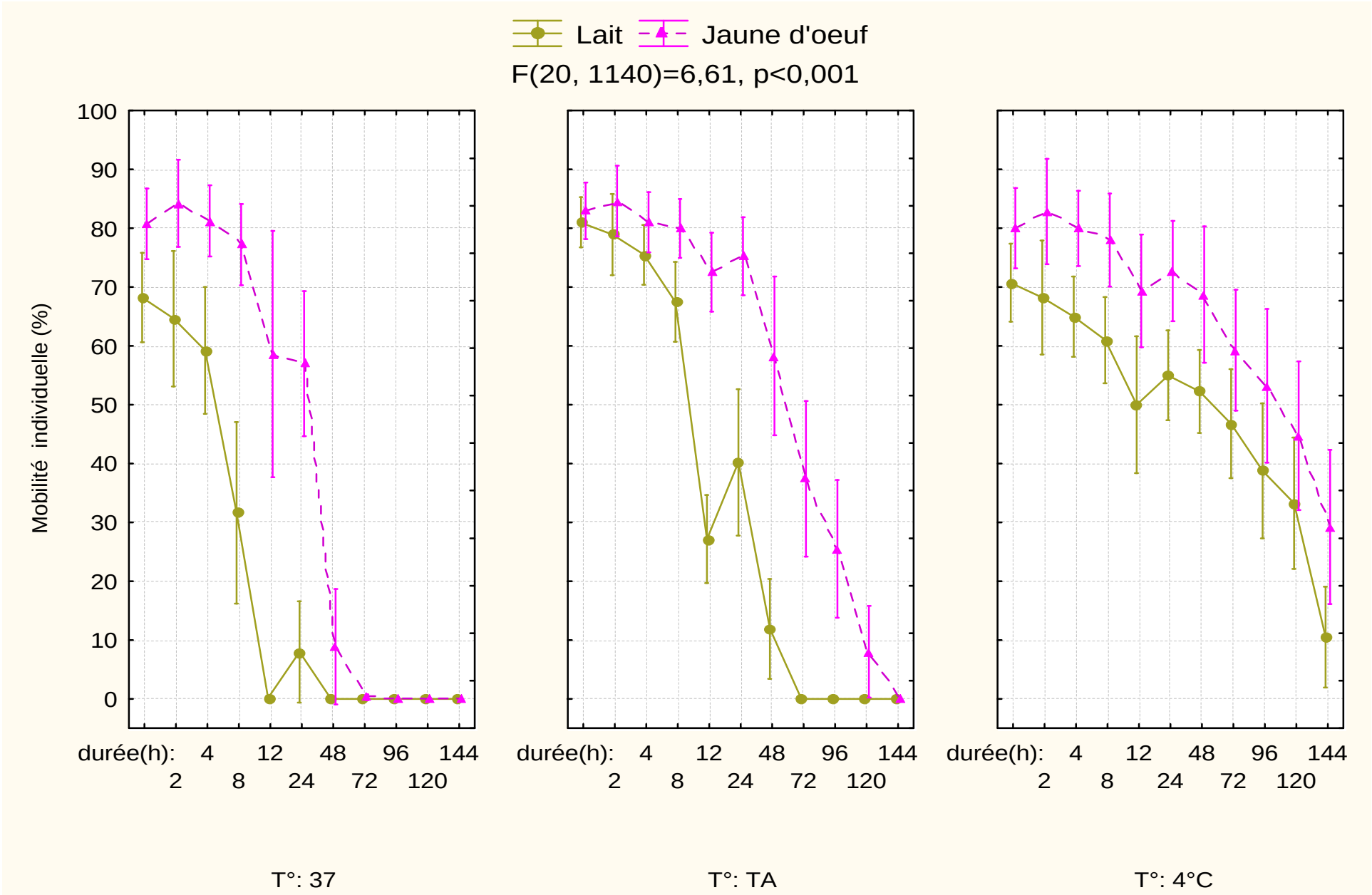

Figure 4. Effect of extenders, temperature and duration combination on the semen quality

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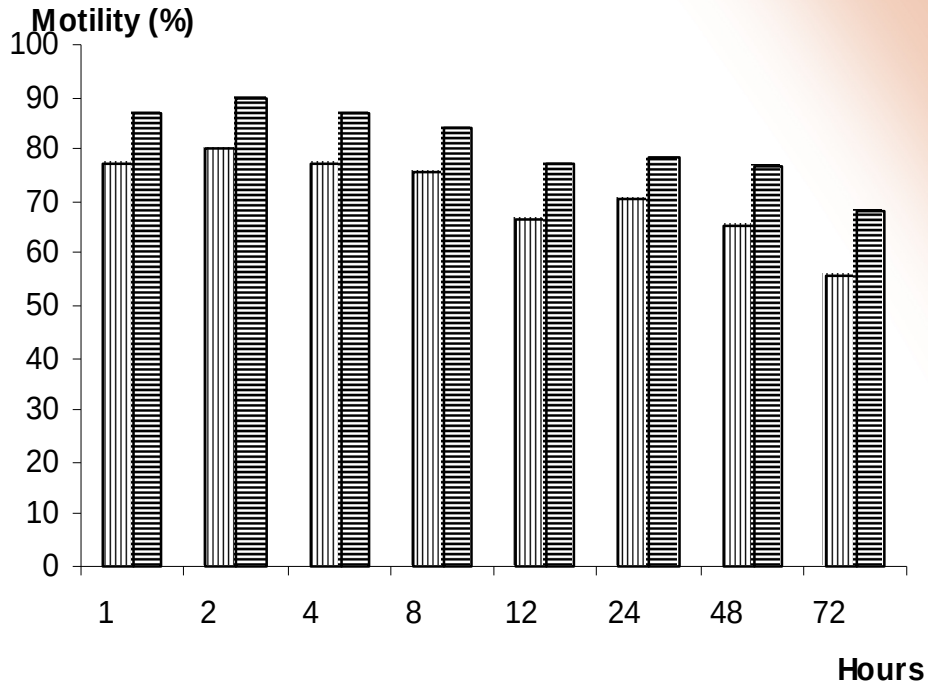

Figure 5. The mean motility of Boujaâd ram fresh semen conserved at 4°C during different hours .

Group 1 (horizontal lines), group 2 (vertical lines).

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Conclusion and perspectives

1. Ram semen stored at 4°C has a longer life span than that stored in room temperature or at 37°C.

2. Tris / egg yolk appears to provide better preservation for long time of sperm compared to milk at 4°C.

3. The light rams (< 50) semen has the best ability to be conserved than the heavy rams semen (> 50 kg).

4. This study is on progress and the next step will be the test of other temperatures (15°C)/ antio-xydant during the breeding and non breeding season and the evaluation of fertilizing ability of fresh ram in these conservation conditions.

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Thank you for your attention