

# Effects of the dose of equine Chorionic Gonadotropin (eCG) on estrus and follicular growth parameters in african bovine breed N'Dama

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## WHY ?

- N'Dama : bovine breed trypanotolerant with butchery quality.
- Due to zootechnical conditions, AI needs to synchronise oestrus with hormonal protocols
- Reproductive characteristics of N'Dama not extensively studied (Okouyi et al. RASPA 2014,12,3-7)

## HOW ?

- 121 heifers and cows : 4.4 ± 0.6 y (Age), 221.2 ± 20kg (Weight), 2.4 ± 0.4 (BCS)
- Clinical (manuel palpation, echography and vaginoscopy) examination before treatment
- Hormonal protocol to induce oestrus : CIDR® (1.38 g of progesterone, Zoetis) during 7 days, PGF2a (Estrumate® Intervet) at day 5 and eCG ((Folligon® Intervet) at day 7.
- Five groups : group 0 : 1 ml of NaCl; group 1 : 300 IU, group 2 : 400 IU, group 3 : 500 IU; group 4 : 600 IU.
- Oestrus detection during 7 days.
- Postmortem examination of ovaries 8 to 10 days after treatment..
- Analysis of data using logistical regression and ANOVA (SAS ).



## WHAT ?

Non significant effect of eCG dose on

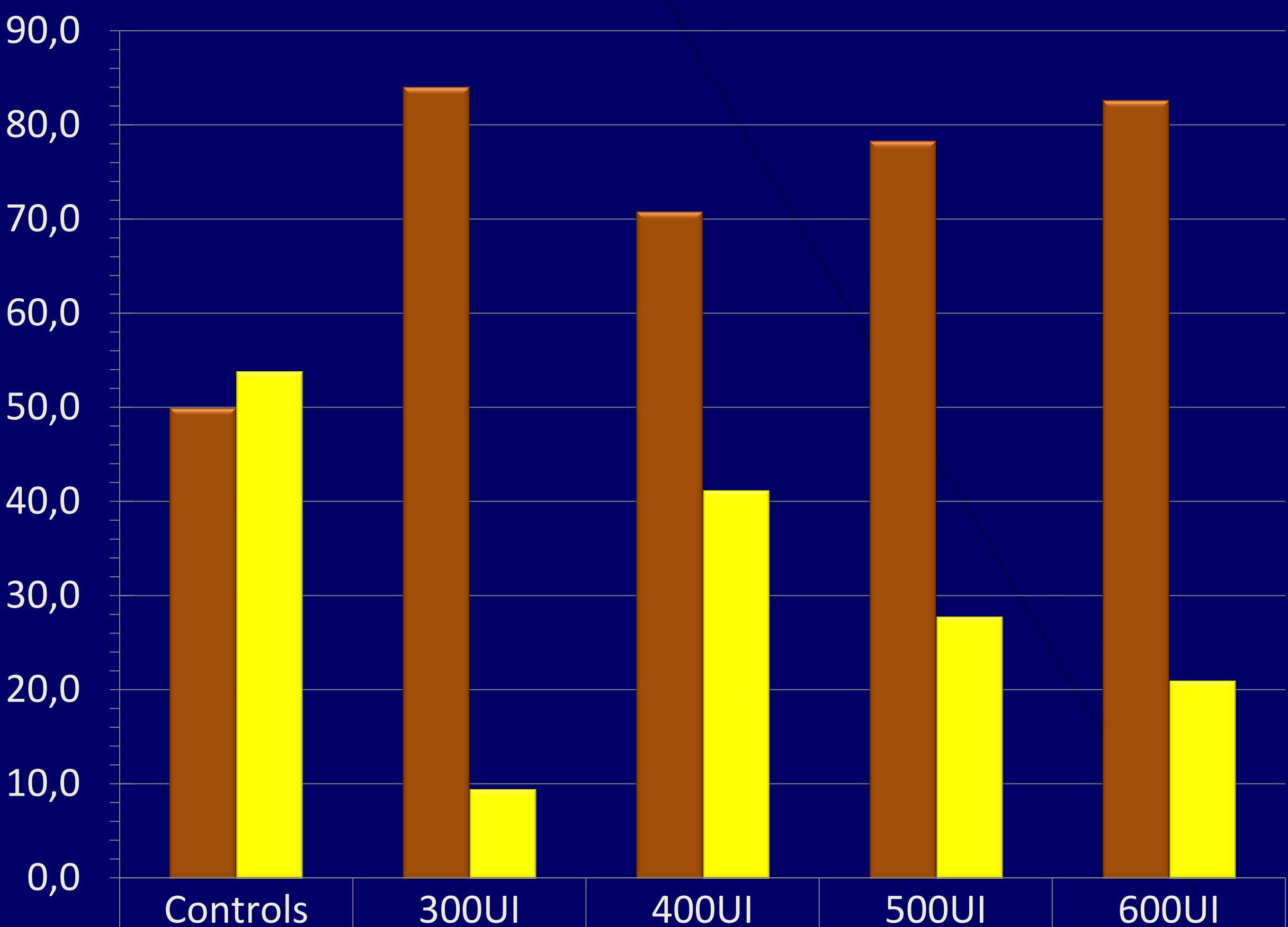
interval to oestrus : 48.6 ± 5.3 h

length of oestrus : 9.9 ± 2 h

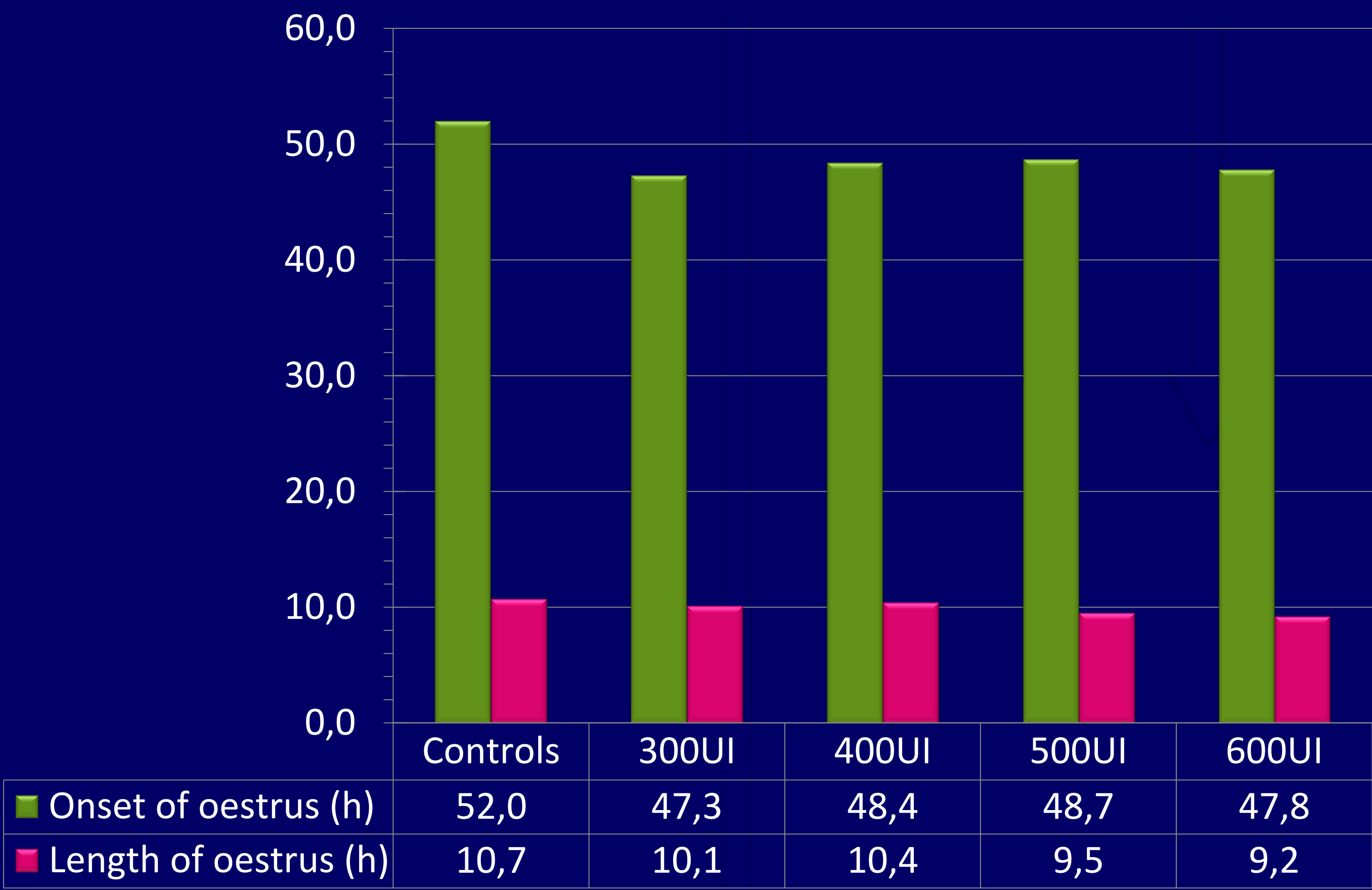
Significant effect of eCG dose on

Oestrus rate : average 72,7 % (P<0.02)

Silent oestrus rate : average 28,4 % (P<0.01)



|                         |      |      |      |      |      |
|-------------------------|------|------|------|------|------|
| Oestrus rate (%)        | 50,0 | 84,0 | 70,8 | 78,3 | 82,6 |
| Silent oestrus rate (%) | 53,8 | 9,5  | 41,2 | 27,8 | 21,0 |

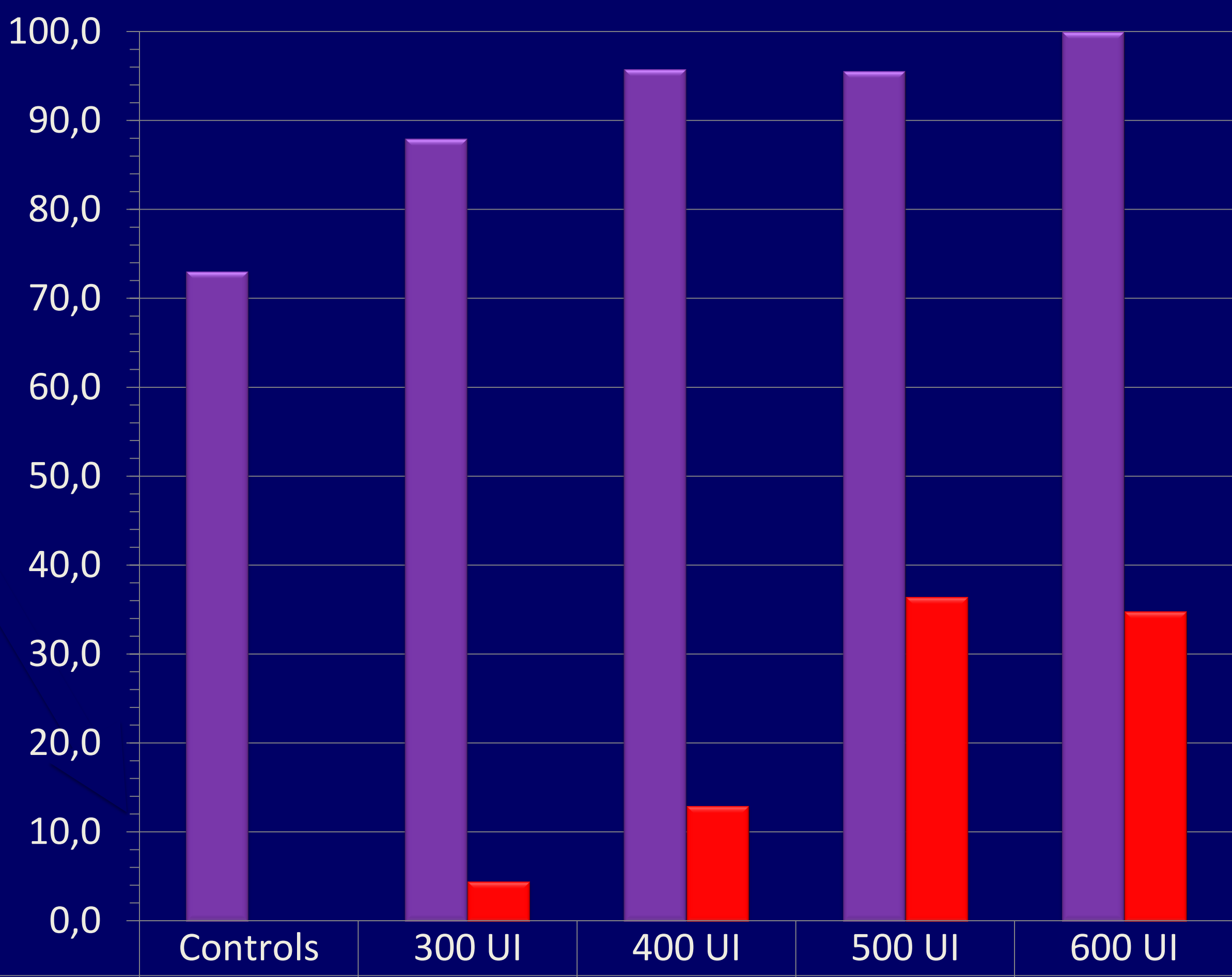


|                       |      |      |      |      |      |
|-----------------------|------|------|------|------|------|
| Onset of oestrus (h)  | 52,0 | 47,3 | 48,4 | 48,7 | 47,8 |
| Length of oestrus (h) | 10,7 | 10,1 | 10,4 | 9,5  | 9,2  |

Ovulation rate : average 90,1 % (P<0.02)

Multiple ovulation rate : average 18,3 % (P<0.002)

- Oestrus rate : % of mounted animals
- Silent oestrus rate : % oestrus not being detected but being followed by ovulation
- Ovulation rate : % of ovulation confirmed after slaughter
- Multiple ovulation rate : % of animals with more than 1 corpus luteum after slaughter



|                              |      |      |      |      |       |
|------------------------------|------|------|------|------|-------|
| Ovulation rate (%)           | 73,1 | 88,0 | 95,8 | 95,6 | 100,0 |
| Multiple ovulations rate (%) | 0,0  | 4,5  | 13,0 | 36,4 | 34,8  |

## CONCLUSIONS

- CIDR can be used on N'Dama cows (100 % of retention rate)
- The hormonal protocol using CIDR-PGF<sub>2α</sub>-eCG may be recommended to induce heat and ovulation in female N'Dama.
- Injection of 300 to 600 IU of eCG would contribute to increase the pregnancy rate through an increase of oestrus detection rate an ovulation rate.
- To avoid twinning, doses of 300 to 400 IU would be recommended.

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