

# SHORT SYNCHRONIZATION TREATMENT FOR FIXED-TIME CERVICAL ARTIFICIAL INSEMINATION IN LESVOS EWES DURING THE TRANSITIONAL PERIOD USING COOLED SEMEN FROM LESVOS RAMS

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## 1. Introduction

The implementation of artificial insemination (AI) is expected to contribute to the acceleration of genetic improvement in Lesvos sheep breed. A pilot application of fixed time artificial insemination (FTAI) was performed on Lesvos island, during the transitional period.

## 2. Materials and Methods



**Foto 1.** Semen collection from Lesvos ram using artificial vagina, at the semen collection facility on Lesvos island.

Oestrous cycles of Lesvos ewes (n=129) were synchronized with MAP sponges (n=65) or CIDR (n=64) for 6 days, plus d-cloprosterol (0.0375mg) and eCG (500IU) at MAP/CIDR removal.

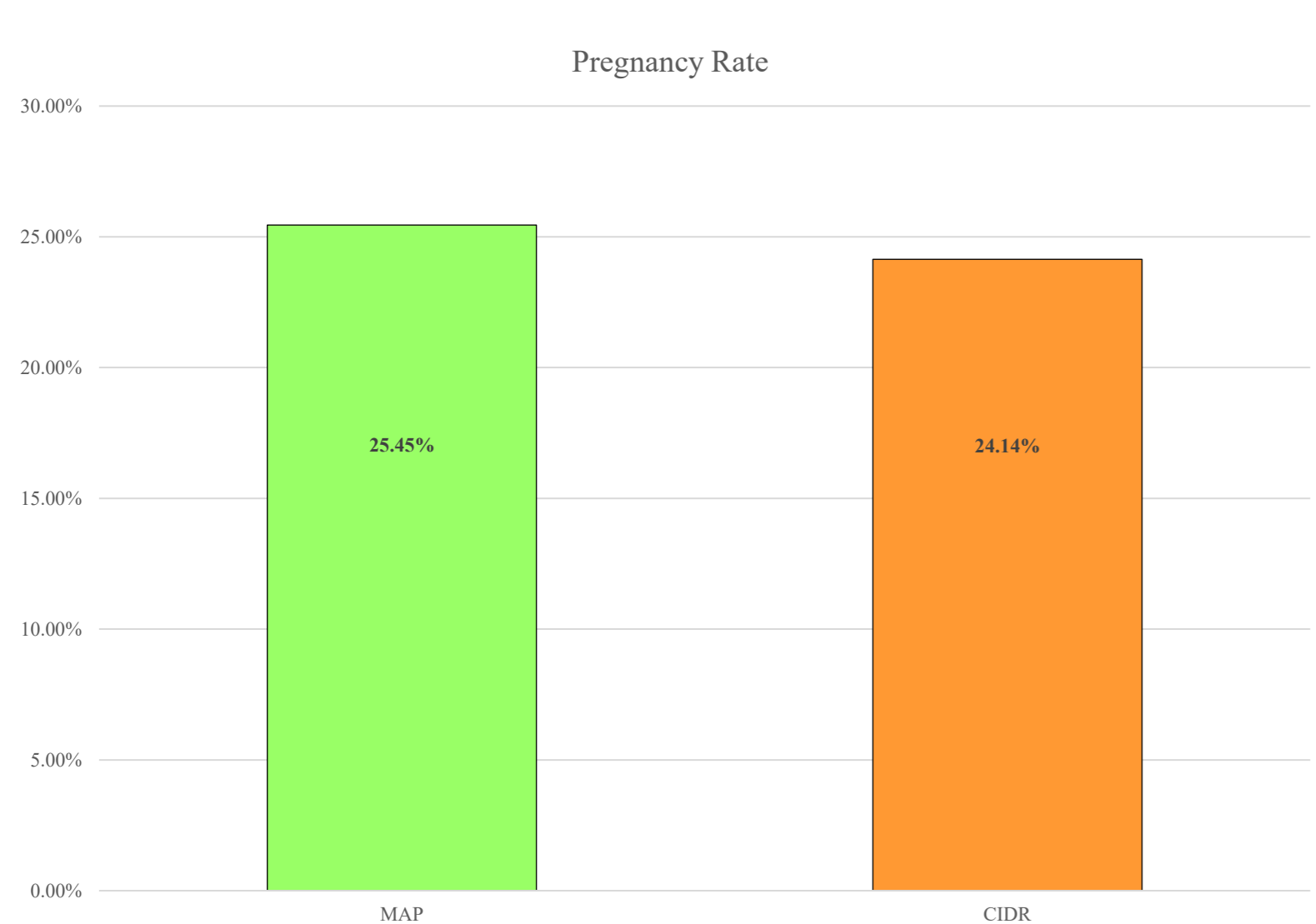
Semen was collected by artificial vagina from 4 Lesvos rams, extended with OviXcell® to a concentration of 400x10<sup>6</sup>sperm/mL, equilibrated at 5°C for 1h and packed in 0.5mL straws.

Cervical FTAI was performed 50.95±0.76 hours after MAP/CIDR removal, within 4-6 hours of semen collection. At insemination, electrical resistance of cervical mucus (ERCM), an indicator of the proper A.I. time (Theodosiadou et al 2014, Reprod Biol 14: 234-237), was measured and blood samples were collected for serum progesterone (P<sub>4</sub>) assessment by RIA.

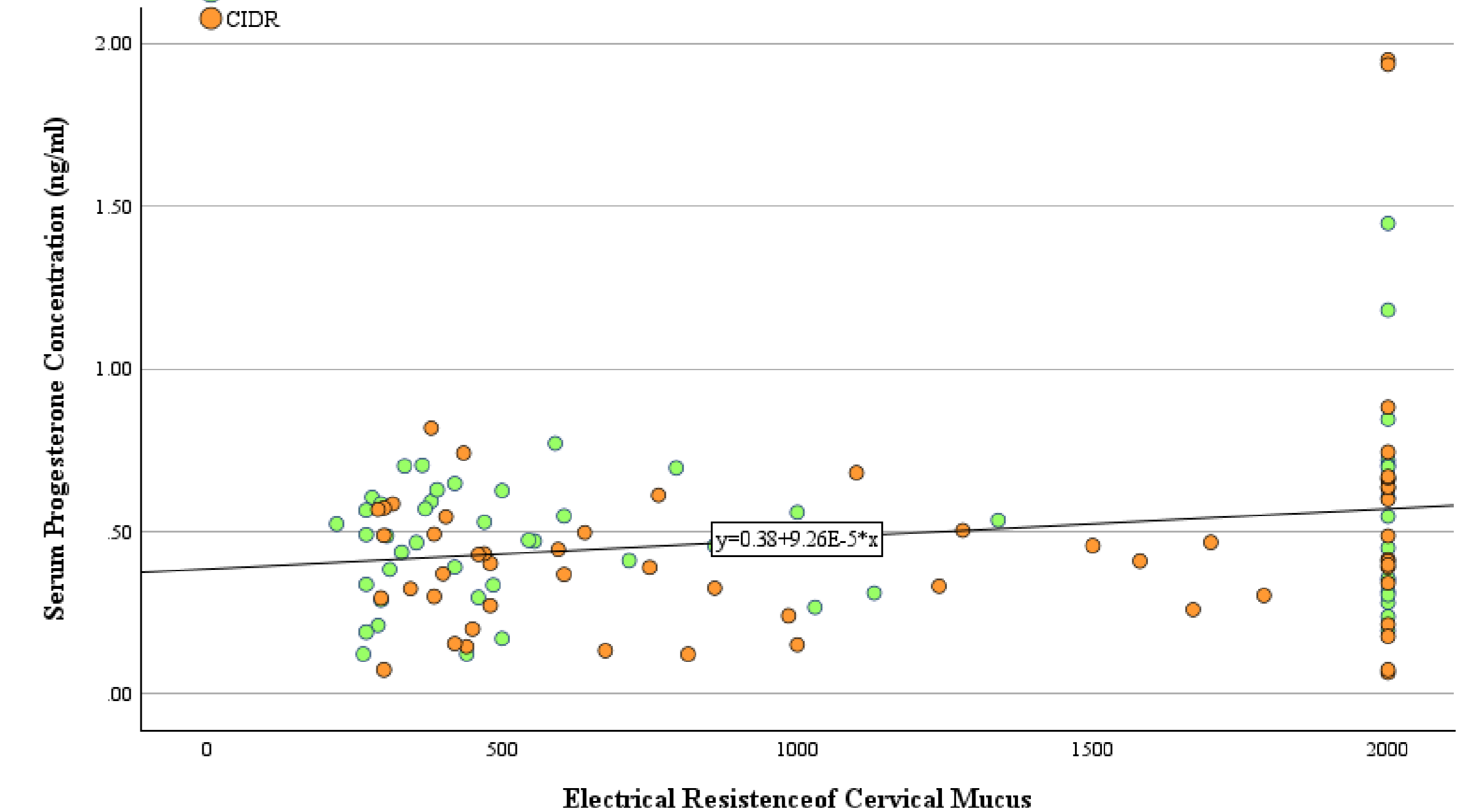
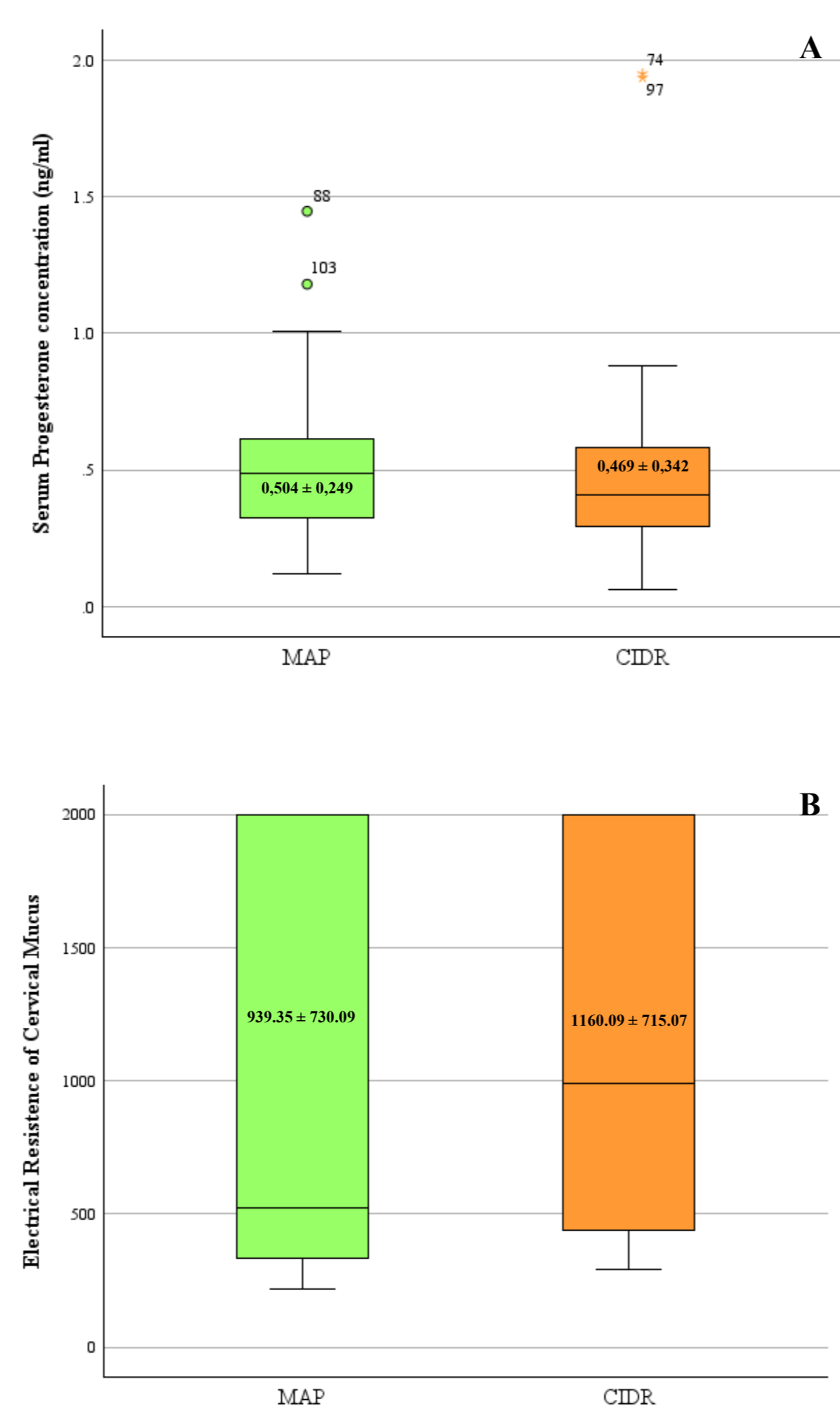
Pregnancy diagnosis was performed 40-50 days after A.I., by transabdominal ultrasonography. Data was analysed by t-Test, Chi square and regression analysis; significance was set at  $p < 0.05$ .



**Foto 2.** Measurement of electrical resistance of cervical mucus (a) during (fixed time) Cervical Artificial insemination (b) in a Lesvos ewe.



**Figure 1.** Pregnancy rate after FTAI in Lesvos ewes synchronized with MAP or CIDR for 6 days.



## 3. Results - Conclusion

Data from 113 ewes (MAP n=55, CIDR n=58) was included in the analysis (loss of MAP/CIDR or data in 16 cases). Pregnancy rate (PR) was similar in the two groups (MAP 25.45%, CIDR 24.14%;  $p > 0.05$ ). No significant differences were noted between MAP and CIDR groups regarding P<sub>4</sub> or ERCM. P<sub>4</sub> was positively associated with ERCM ( $p < 0.05$ ,  $F = 5.976$ ) and both were positively associated with PR (P<sub>4</sub>  $p < 0.01$ ,  $F = 8.473$ ; ERCM  $p = 0.063$ ,  $F = 3.534$ ). So, we may assume that PR improved, when FTAI was performed at a time when P<sub>4</sub> was higher. Further trials are necessary to determine the optimum time for FTAI following short synchronization treatment in Lesvos ewes.

