

RESEARCH REGARDING THE SYNCHRONIZATION OF ESTRUS AT GOATS

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Abstract

Research aimed at inducing group heats goats using hormonal preparations. This biotechnical allows for better organization of activities in growing goats and, especially, more efficient management of calving. The action was based on blocking the sexual cycle with progesterone, followed by stimulation of follicular development. For the blocking sexual cycles were used vaginal sponges impregnated with 30mg fluorogeston acetate, maintained intravaginal 12 days. After 24 hours of extraction vaginal sponges, goats were inoculated with 600 UI PMSG. The insemination was done with frozen semen coming from three goats to breed Carpathian. Of 102 goats subjected to treatment, 12 (11.76%) did not tolerate vaginal sponges, and the remaining 90 goats (88.24%) were artificially insemination. Fecundity, calculated at 21 days after insemination, was 90%.

The results obtained confirm the possibility of estrus synchronization in goats using hormonal preparations on the basis of progesterone and PMSG.

Key words: synchronization, estrus, goats

INTRODUCTION

To optimize the function of reproduction in small ruminants estrus synchronization practiced both globally and in our country [1,2,3]. This can be achieved by using serial injections of progesterone, with or without serum gonadotropin (PMSG), or by using preparations of type progestins administered as subcutaneous implants or vaginal route [5]. In sheep, we achieved satisfactory results in the synchronization of oestrus with vaginal sponges, on the basis of progesterone combined with PMSG [4].

MATERIAL AND METHOD

To synchronize estrus were used two treatment regimens. The first scheme was based on blocking the sexual cycle by synthetic progesterone followed by stimulation of follicular development with serum gonadotropins. A total of 102 goats were brought vaginal sponges impregnated with 30 mg fluorogestine acetate. Sponges were maintained in the vagina 12 days. After 24 hours of removal sponges, each animal was injected with 600 IU PMSG. After 48 hours has made goat insemination with frozen semen, obtained from 3 bucks (with semen

from each buck, were inseminated 34 goats). Experiences were held in September.

In the second treatment schedule was used Proliz to induce corpus luteum involution. On October 12, 2009, 35 goats received one dose of intramuscular Proliz. In these days the goats were mated.

RESULTS AND DISCUSSION

In the first 5 days after the introduction of vaginal sponges, 17 of the 102 goats (16.6%) were observed pus-mucus leakage. Although measures were taken by aseptically the vagina, 12 of them (11.76%) has needed for extracting sponges before the end of treatment. At 24 hours after removal sponges, to the 90 remaining goats in the consignment, received PMSG for development of ovarian follicles. After carrying out artificial insemination without oestrus identification based on clinical signs, daily, for 42 days was observed the heat return. Goats fecundity, calculated based on non-return to estrus at 21 days was 90% (81 animals have not been in heat at this point). In the period 22 - 24 days after insemination, the animals showed estrus 61 (67.7%) and by the end of the 42 days of observation were identified in heat 4 goats

(4.4%). Note, therefore, a grouping of occurrence heats after a period of time longer than the duration of a sexual cycle. Of the total of 90 artificially inseminated females, only 16 goats have given birth (17.7%)

(Table 1). The remaining 74 goats that did not remain pregnant following artificial insemination were mated and diagnosed pregnant after first mate.

Table 1. Results of synchronizing estrus with progestins and gonadotropin serum

| No. crt. | Specification | MU | Worth |
|----------|---|-----|-------|
| 1 | Goats under treatment | No. | 102 |
| 2 | Goats do not have tolerated the vaginal sponges | No. | 12 |
| | | % | 11.8 |
| 3 | Goats artificially sown | No. | 90 |
| 4 | Goats in heat in the range of 1 - 21 days after insemination | No. | 9 |
| | | % | 10.0 |
| 5 | Goats in heat in the range of 22 - 24 days after insemination | No. | 61 |
| | | % | 67.7 |
| 6 | Goats in heat in the range of 24 - 42 days after insemination | No. | 4 |
| | | % | 4.4 |
| 7 | Goats pregnant after artificial insemination | No. | 16 |
| | | % | 17.7 |
| 8 | Pregnant goats after mate in the period 22 - 42 days | No. | 59 |
| | | % | 90.7 |

MU – measurement unit

Results obtained in sheep [4] with the same treatment schedule but with other hormonal products were higher (73% fertility and birth rate 59.8%) compared with that seen in our goats. Following administration

of the preparation based on lute-lysine of the 35 treated goats, in these 3 days consecutive came in heat 28 goats (80.0%). Most animals showed oestrus on the third day (19 goats - 67.8%) (Table 2).

Table 2. Results on synchronization of oestrus with Proliz

| Goats treated | Goats in oestrus, at 24 hours after treatment | | Goats in oestrus, at 48 hours after treatment | | Goats in oestrus, at 72 hours after treatment | | Non return in the range 1 - 21 days after the mount | |
|---------------|---|-----|---|------|---|------|---|------|
| | No. | % | No. | % | No. | % | No. | % |
| 35 | 1 | 2.8 | 5 | 14.3 | 19 | 67.8 | 32 | 91.4 |

CONCLUSIONS

After sowing goats after 48 hours of the end of treatment with progesterone and serum gonadotropin, without identifying the state of estrus was obtained a very low rate of pregnancy (17.7%). This demonstrates that the timing of insemination did not coincide with ovulation.

The treatment effect occurred after 21 days, when the heats have appeared together in the course of 4 days. Gestation rate obtained following mating (90.7%) was much better than in the case of artificial insemination, because mating time was synchronized with ovulation.

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