USE OF ESTRUS SYNCHRONIZATION AND ARTIFICIAL INSEMINATION FOR IMPROVING FALL-KIDDING OF LOCALLY BORN SYRIAN GOATS IN SAUDI ARABIA

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SUMMARY

Sixty-eight multiparous Syrian does were randomly assigned to four hormonal regimes. Those were (1) untreated control, (2) applying controlled internal drug releasing device (CIDR) for 17 days to synchronize does, (3) applying CIDR for 17 days + injecting 600 i.u. of pregnant mare serum gonadotropine (PMSG) at withdrawal time and (4) applying CIDR for 17 days + injecting 600 i.u. of PMSG and 15 mg of prostaglandin ($PGF_2\alpha$). All synchronized does were artificially inseminated (AI) about 56 hours post CIDR removal. The untreated control does were also artificially inseminated at the same time like the other treated does. Semen used in AI was collected from three tested mature bucks. Ejaculates from those bucks were pooled and extended using IMV goat dilution. For each insemination, a volume of one ml containing approximately 100 million motile spermatozoa was used. Conception rates and kidding rates were recorded.

Does in treatments 3 and 4 showed estrus approximately 36 hours post CIDR removal and were 8 hours earlier than those in treatments 1 and 2. Differences in pregnancy rates and number of newborns between the four treatments were significant ($P<0.05$). Percentages of does kidded were 11.8%, 35.3%, 58.8% and 76.5% in treatments 1, 2, 3, and 4, respectively, while multiple births percentages were 0.0%, 11.8%, 52.9% and 47.1% per doe kidded in the respective treatments. Injecting does with PMSG and/or $PGF_2\alpha$ in treatments 3 and/or 4 at the time of pessary withdrawal was associated with fruitful improvements in the kidding rate. The kidding period in all hormonal-treated does was short (about 9 days) and this is an advantage for synchronizing the estrus in Syrian does.

Keywords: *Syrian goats, fall kidding, estrus synchronization, PMSG, Prostaglandins, kidding rates.*