



MINISTRY OF JIHAD-E-AGRICULTURE  
Agricultural Research, Education and Extension Organization  
Agriculture and Natural Resources Research and Education Center of Ardabil

### **The effect of using GnRH to improve estrus induction efficiency in Moghani ewes in none breeding season**

**Research worker: Mahmood Sahraei**

#### **Abstract**

The aim of this study was to improve the reproductive function of Moghani ewes in pasture conditions by using PMSG and GnRH following estrus synchronization. For this purpose, two experiments were designed and performed. In experiment 1, a flock of nomadic sheep with at least 160 ewes was selected and numbered to perform the first step in the none breeding season in early May. In this flock 4 groups including: Control group, synchronization with progesterone sponge, synchronization with progesterone sponge plus injection of 400 IU PMSG on the day of sponge removal and synchronization with progesterone sponge plus injection of 400 IU PMSG on the day of sponge removal and injection of 2 ml and Vitarolin (GnRH source) 50 hours after sponge removal. In the second phase of experiment, lambs born in different treatments were fed by concentrate with 17.5% crude protein and 2.75 Mcal / kg metabolizable energy per kg of diet during different suckling period for 90 days. During the project implementation, lamb birth weight, weaning weights, lambing percentages, lamb mortality rate, number of lambs, twins, multiparous lambs, lambing rate and concentrate consumption and lamb weight gain were recorded monthly and, at the end of the period The results showed that the percentage of lambing, twinning and fecundity was the lowest in the control (without synchronization and hormone therapy) and the highest in the synchronization group plus the injection of 400 IU PMSG and 2 ml Vitarolin ( $P < 0.05$ ). The lowest lamb weight efficiency was obtained in the non-synchronized and hormone-treated (control) and progesterone-synchronized groups and the highest in the synchronized group plus the injection of 400 IU PMSG and 2 ml Vitarolin, progesterone synchronization group plus injection of 400 IU PMSG was intermediate ( $P < 0.05$ ). In terms of weight efficiency of lamb weaning based on ewes the lowest in Control and progesterone-synchronized groups and the highest in progesterone-plus synchronized groups. 400 IU of PMSG and synchronization plus injection of 400 IU of PMSG and 2 ml Vitarolin were observed ( $P < 0.05$ ). Economically, lamb sales profit per ewe was higher in synchronized group plus PMSG injection and 2 ml Vitarolin, and lowest in non-synchronized and hormone groups. Generally, the net profit equals to 2739,000 Rials earned

compared to the control group when using synchronization plus injection of 400 IU PMSG and 2 ml Vitarolin in herdsman.

**Key Words:** Synchronization, Reproduction performance, GnRH, Cost-benefit, Sheep.