



Fecundity improvement trials in estrus synchronized Osmanabadi Goats



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Introduction

- Marathwada region of Maharashtra possesses Osmanabadi breed of goats
- Fecundity aspects are least considered in Goat reproduction
- However, record of seven kids per term has been documented in Osmanabadi goats
- Goats - seasonally polyestrous and hormonal protocols are available for manipulation of goat reproduction

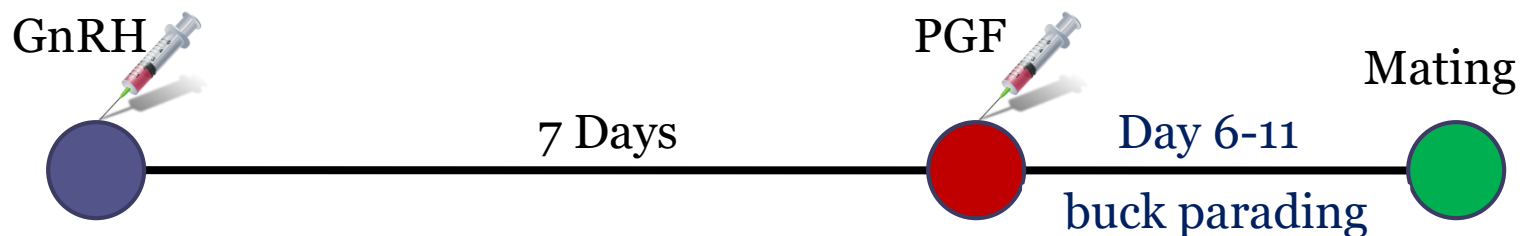




The Experiment

- **Objective:** To study the efficacy of fecundity improvement protocols in Osmanabadi Goats synchronized with standard select-synch protocol
- Total 48 non-pregnant does were selected after USG examinations and then were treated with standard Select-synch protocol
- GnRH @ 4 μ g IM on day 1+ PGF_{2 α} @ 125 μ g IM on day 7 for estrus induction and synchronization.

Standard Selectsynch protocol





Experimental Design

Sr	Group	No. of goats	Fecundity booster treatment during select-synch protocol
1	Group-I	08	GnRH @ 6 µg IM on day 9
2	Group-II	08	Micro-minerals @ 2 tablets OD for 10 days +injections of vit. A, D ₃ , E @ 3 ml on D 1 & 7
3	Group-III	08	5% Dextrose injection @ 10 ml/kg BW, intravenously on day 7
4	Group-IV	12	GnRH @ 8 µg IM on day 8
5	Group-V	12	Propylene glycol @ 20 ml/kg BW orally for 10 days

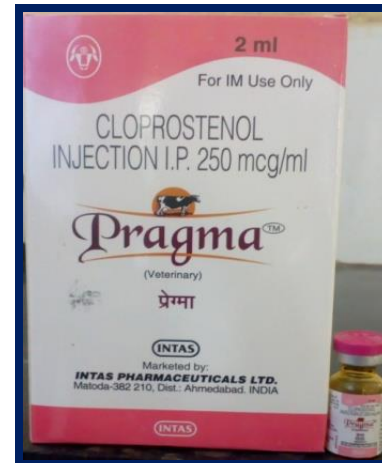


Drugs used for Treatment

❖ **GnRH** (Gynarich - Buserelin acetate-
4 μg / ml) @ 6 μg

❖ **PGF₂ α** (Pragma - Cloprostenol
sodium- 250 μg / ml) @ 125 μg

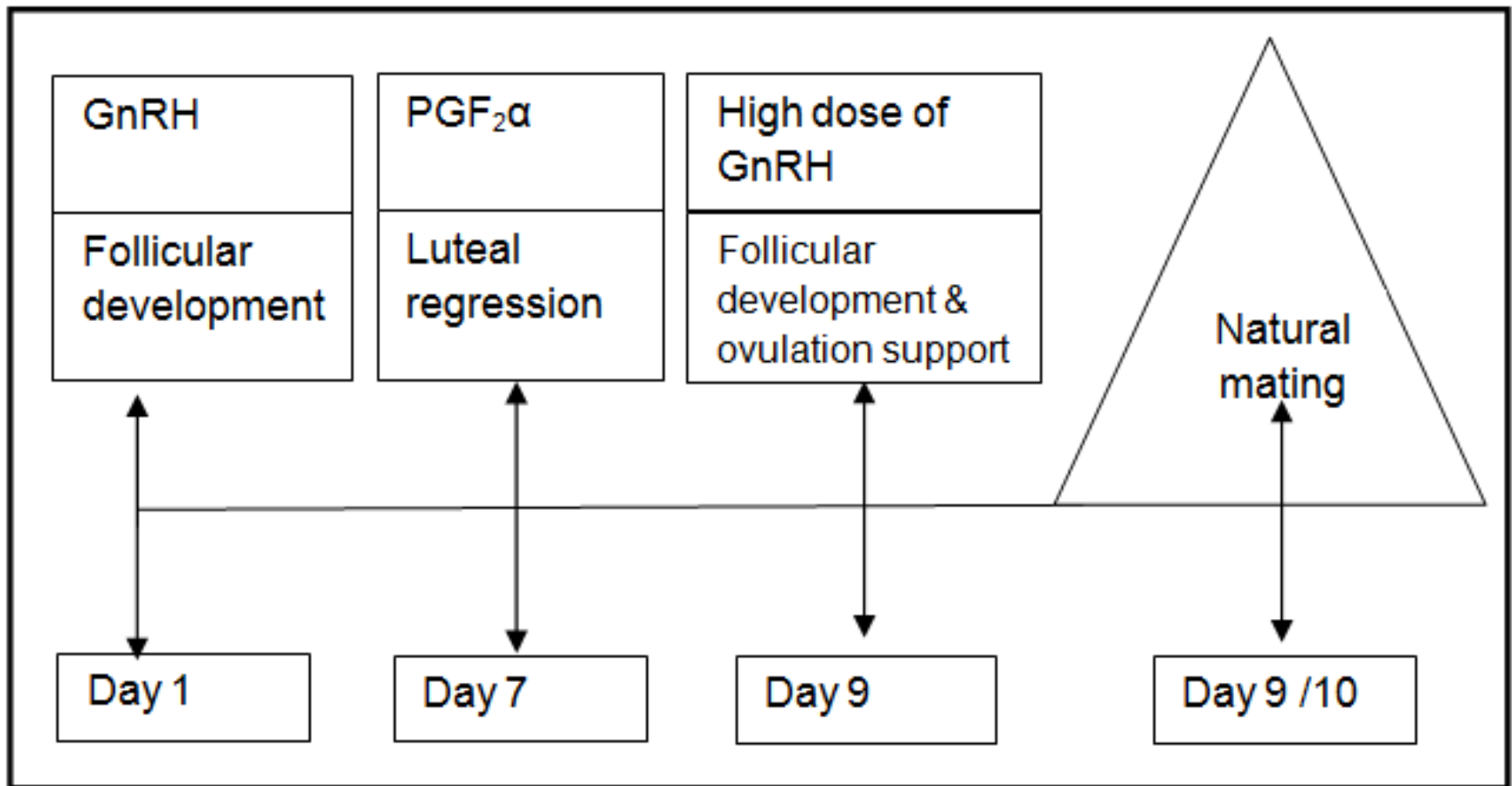
❖ **Propylene glycol** – (Glucaboost - Propylene glycol) @ 20 ml





Hormonal stimulus

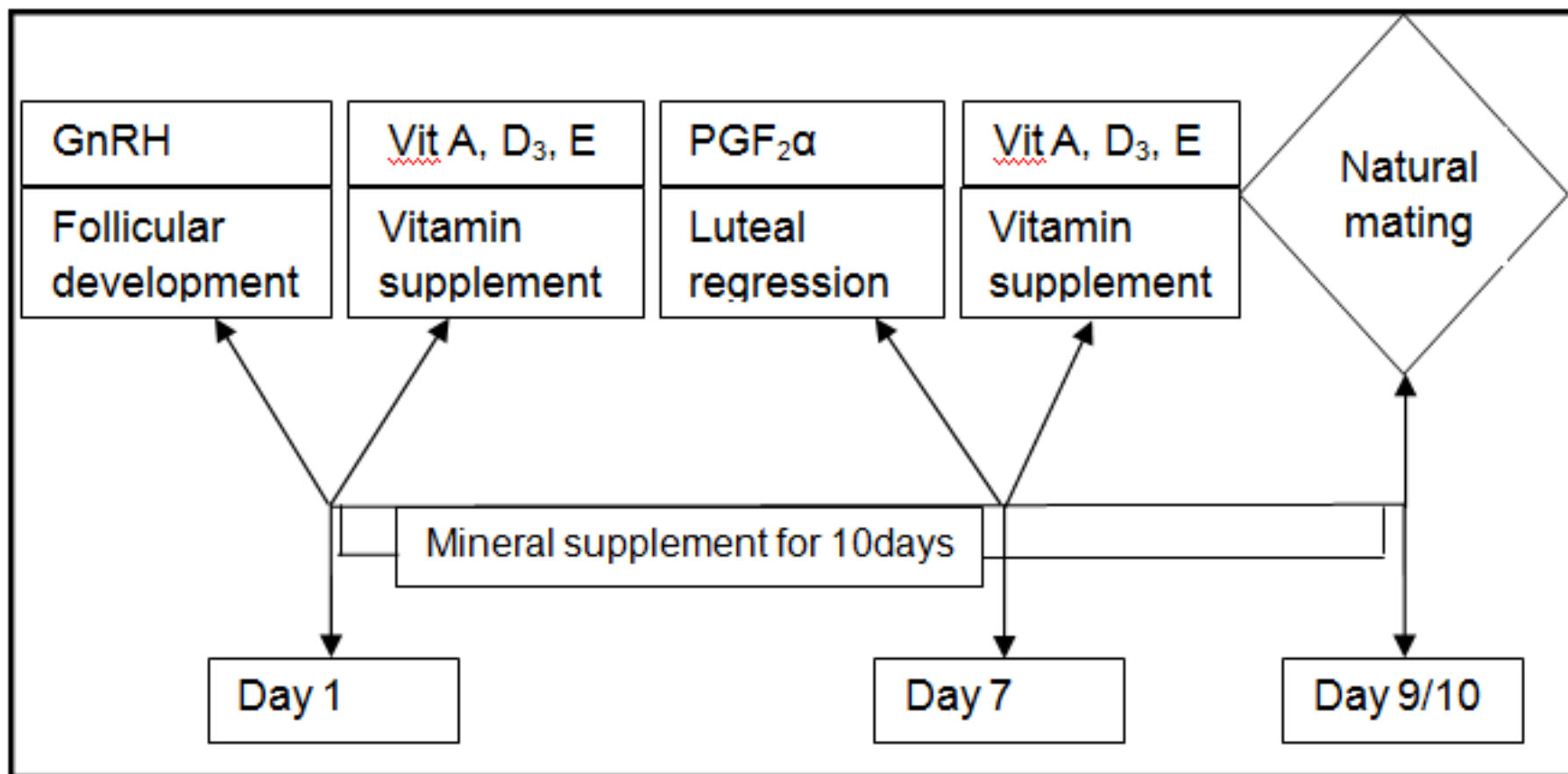
GnRH has direct impact on FSH stimulation for Follicular development





Nutritional stimulus

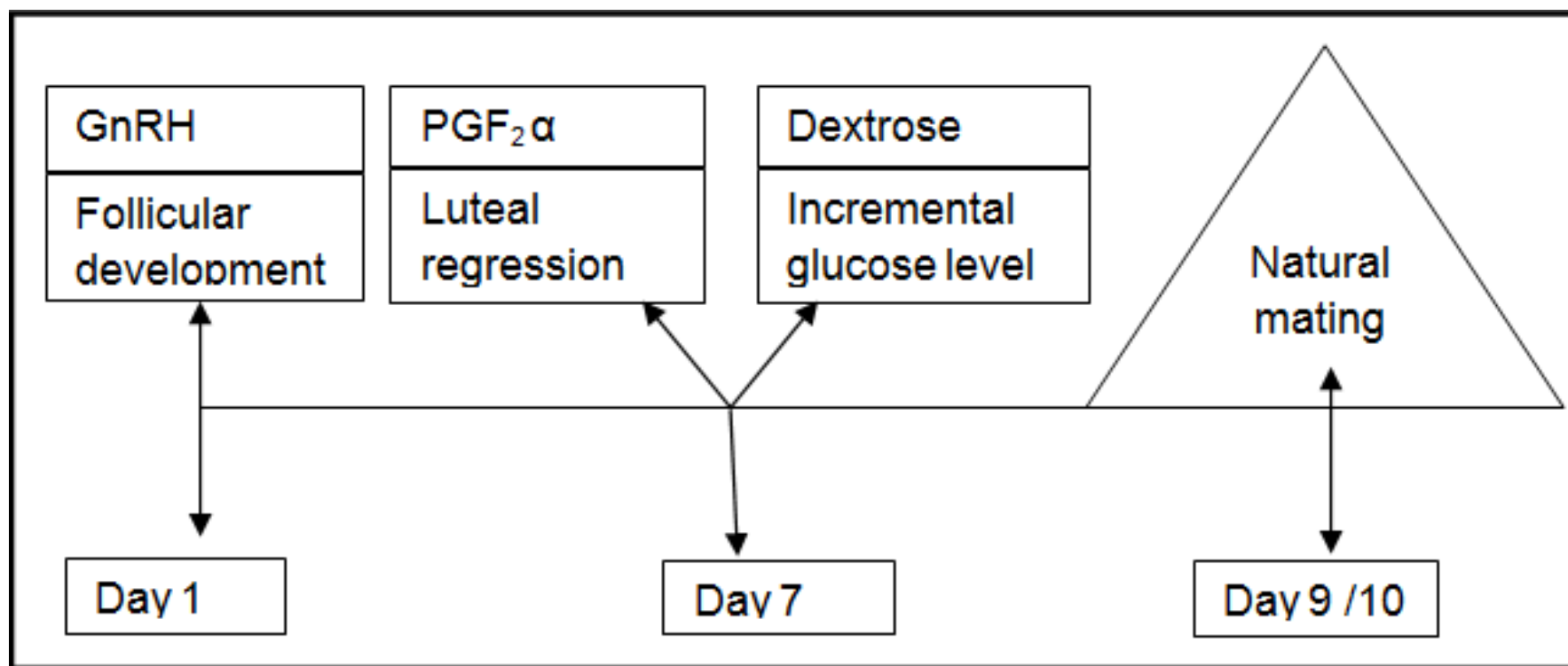
Metabolic fuels stimulate GnRH production





Energy supplement

Direct relationship exists between Energy-fecundity- P_4



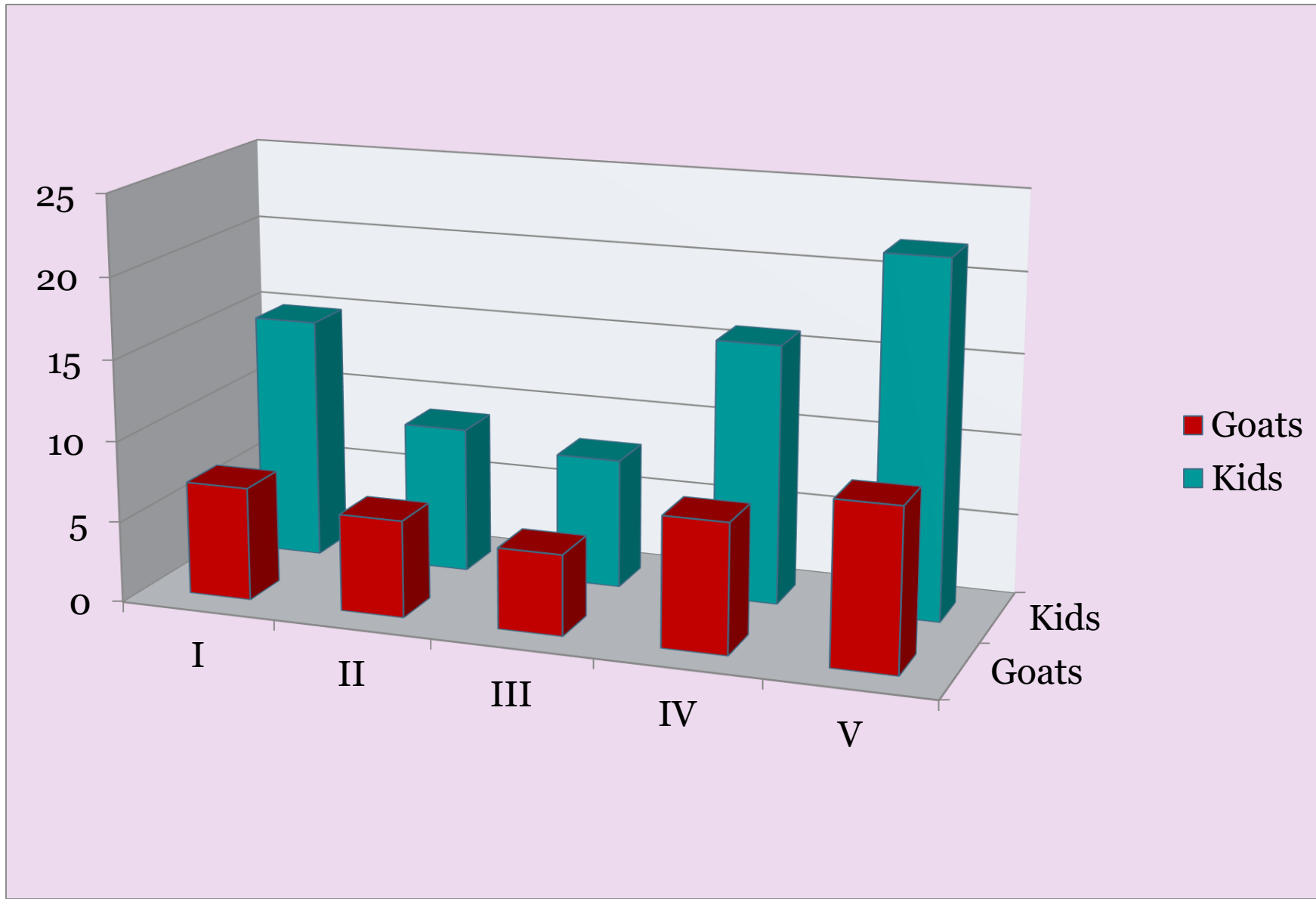


Results

Sr	Group	Estrus response (%)	Pregnant Goats (n)	Kids Born (n)	Mean kid crop
1	Group-I	87.50	07/08	15	2.1
2	Group-II	75.00	06/08	09	1.5
3	Group-III	62.50	05/08	08	1.6
4	Group-IV	66.00	08/12	16	2.1
5	Group-V	83.30	10/12	22	2.2



Dams vs. Kids produced





Conclusion

- Irrespective of dose of GnRH as 6 or 8 μg , fecundity rate was at par in goats
- Constant energy supply has significant effect in goats for fecundity improvement
- Fecundity rate was not found to be improved with any of the protocols attempted in the present trail
- Further efforts are necessary to explore mechanism of higher fecundity induction in goats





THANKS !