

Most Recent Success Story/Research Achievement

Success story:

Success of yak sedentarization in Arunachal Pradesh

In India the yak herders (Brokpas or Dokpas) migrate with their livestock from one hill to another and yaks are reared under semi-migratory (Transhumance) free range system. They practice two pasture utilization strategy. During summer, in the month of May they migrate to high altitude (14,000-16,000 ft above msl) and stay on alpine pasture till October. There are abundant grasses on the pasture and yak gain body weight and milk production are also better. In the middle of October they (Brokpas) generally come down with their animals to mid altitude ((9,000-10,000 ft above msl) and graze the yak nearby their village and brokpas stay in their house till April. However, during the winter months due to lack of adequate fodders generally yaks loss body weight by 15-30% and milk production is virtually stopped.

Realizing the importance of sedentarisation the nomadic yak herders (Brokpas) of Arunachal Pradesh are being encouraged to give up their wandering life style for the sake of increasing milk production, normal reproduction and to overcome loss of body weight during winter. The NRC on Yak, in association with the A.H. & Vety. department and a local NGO, Dungkharpa welfare Society (DKWS), is taking initiatives to help brokpas to



Yak sedentarization programme was successfully implemented at Mandala (10000 ft above msl) in 2011

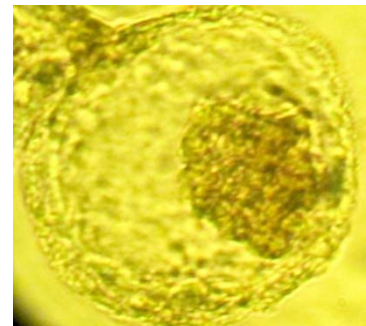
maintain a non-nomadic life as a part of a research project for livelihood support to brokpa communities. About eighteen growing yak calves were used for this experiment. A simple shed was constructed under which feeding experiment was carried out. All the eighteen animals were divided into three groups of 6 animals in each. Gr.I was fed Complete Feed Block (CFB) prepared from maize stover: concentrate in the ratio of 50:50 (CFB1) and Gr.II was feed CFB2

composed of maize stover, salix leaves and concentrate in the ratio of 25:25:50 respectively. Gr.III animals was allowed for grazing. All the three groups of animals were fed area specific mineral mixture (Zn, Co, Cu, Mn 40:20:2:1 = 630 mg/d). The feeding was continued for 120 days. During first 60 days the animals of Gr.I & Gr.II gained av. body wt. of 347 g/day and Gr.III loss body wt. by 15.83%. However, during next 60 days Gr.I & Gr.II were fed same feed block as former period and Gr.III was fed CFB2 with area specific mineral mixture. The growth rate of Gr.III calves was significantly higher (422 g/day) than other groups during next 60 days.\

After end of the experiment the brokpas were very much convinced that yak could grow at optimum rate even during winter. In this winter 2011-12 they have come forward to provide animals for our experiment. Thus it clearly revealed that on farm trial has influenced the brokpas to follow sedentarisation.

Research Achievements:

Recently, under the DBT sponsored project in collaboration with NDRI Ovum Pick Up (OPU) was standardized in yaks at Nyukmadung Farm of NRC on Yak. Using Ultra sound guided ovum pick up machine an average of 1.53 nos. of oocytes, of which 85% of “A” and “B” categories, from 13 nos. of yaks in three occasions. “A” and “B” category oocytes were subsequently subjected to *in vitro* maturation and fertilization which resulted in 70% fertilization rate with subsequent development of embryos to morula and blastocyst stage.



In vitro produced yak embryo (Blastocyst)