SYNONYMOUS with life in the high altitudes, these are the ultimate beasts of burden. And if they happen to block your way on the high hills, there is precious little you can do than just wait patiently.

The sturdy yak (Bos grunneins) is a bovid that dwells in high altitudes in and around the Himalayas (2500-5500 m) at temperatures rarely climbing above zero, usually above the tree line. It belongs to the family Bovidae and is known as the Tibetan dong, brong dong (wild) and pegu (domesticated) in local languages.

The animal has a massively built structure, and is the most important livestock for the highlands of central Asian countries situated between 700 and 1150 of its longitudes and between 270 and 550 of north latitudes. The animal's body is covered with shaggy fringes of coarse hair and the dewlap is absent. Unlike other oxen, the yak has 14 pairs of ribs, while other oxen have 13 pairs.

It possesses well-developed lungs in a large thoracic cavity, and its blood has a high content of red cells due to persistence of foetal hemoglobin throughout its life. All these features impart the animal with better oxygen-carrying capacity and a well-developed body for movement in the high altitudes. Further adaptation to cold includes the presence of a thick layer of subcutaneous fat and an almost complete lack of functional sweat glands. Yaks have some of the strongest odors of any domestic animals!

The wild yaks are one of the highest dwelling animals in the world, and the yak species as a whole have the migratory habit of moving from high altitudes to low during winter and vice-versa in summer. These animals usually live in small herds (except during spring) and may have a lifespan of about twenty-five years.

They are reared under a free-range system and no housing is provided for them even in the worst parts of the winter. They graze on the frost bitten grasses and browse on herbs and shrubs depending on availability. Yaks love to stand or wallow in running water and sometimes make strange grunting sounds and eat grass and shrubs that are available, but when this becomes extremely scarce, these animals are capable of surviving on broken and wilted blades of last year’s grass, which have been blown by the wind and embedded in the soil, by ploughing the ice with their hooves.

Yak milk is rich in fat, but its average milk production is less. The milk is slightly acidic and its composition varies from area to area and also on the quality and quantity of feed provided. Apart from fluid milk, several milk products like ghee (butter) and churpi or chura (local wet cheese) are also prepared from yak milk by the local people. Besides using ghee and churpi as a main constituent of their diet, the locals use the ghee for preparation of salted tea and for lightening lamps in monastery.

Yak meat is rich in fat content and is highly relished. Two types of wool can be procured from the yak: i) coarse hair, and ii)
artificial insemination with frozen semen is normal, as the bulls of these breeds have not, in the past, survived for long in the mountainous regions.

Hybridizing of yak with cattle is advocated in several countries as a means of increasing milk and meat output from the mountainous regions. Only the first generation of hybrids (F1) is favoured, as later generations of backcrosses have poorer performance (and as hybrid males are sterile). However, the F1 females can usefully be mated to males specially chosen for “meat” production. There are both economic and biological limits on the extent to which interspecies hybridization can be carried out. The biological limit is set by the low reproductive rate of yak and by survival rates.

In Nepal, yak/cow hybrids are bred using yak bulls on domestic cows or, less often, domestic bulls on yak cows, and the meat is considered superior to beef. A Dzomo or fertile female crossed with either a domestic bull or yak bull results in an Ortoom (three-quarter-bred) and an Ortoom crossed with a domestic bull or yak bull results in a Usanguchee (one eighth bred). As a result, many supposedly pure yak and pure cattle probably carry a dash of each other’s genetic material.

The yak, as the only institution of its kind in India, which conducts exclusive research on the overall improvement and conservation of yak for higher productivity and profitability to improve the socio-economic conditions of the yak-rearing community. As reported in The Hindu (24th December 2011), Dr. K.K. Baruah, Director, NRCY, said that the population of yak is rapidly declining in India for a variety of reasons ranging from reproductive disorders, improper nutrition and degradation of natural grasslands. Reproductive disorders like delayed puberty, long post partum anoestrous and repeated breeding are major hindrances for increasing yak population. He said that through extensive studies the NRCY has formulated a special feed for yaks that contains all vital nutrients. The ‘Complete Feed Block’ with area-specific mineral mixture developed by the centre is especially useful during the winter when fodder is scanty.

During the last two decades, the NRCY has undertaken several research programmes to overcome the reproductive as well as other health-related problems in yaks. Yak semen collection and freezing and artificial insemination are now routine practices at this institute and artificial insemination as well as treatment of milk fever and distemper are useful. 

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