



THO-THO CATTLE OF NAGALAND

It's Character, Productive
And Reproductive Performance



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In Nagaland almost 100% of the population consumes meat and its products. There exists a tremendous potential for meat and meat products. In Nagaland per capita meat availability is around 9Kg as compared to the recommended requirement of 54 Kg. This data suggests that there is a huge potential for production of meat producing animals to fulfill the requirement and demand of meat in the state.

In Nagaland the total cattle population is approximately 6.9 lakhs of which the contribution of crossbred and indigenous cattle population are 35% and 65% respectively. In indigenous cattle population a small portion of Tho-Tho cattle exists which is 39% of the indigenous cattle population. Tho -Tho cattle are called by different names at different locations like Ashucho, Ameshi, Sheapi, Chokru, Tseso, etc. The important uses of Tho-Tho cattle being meat, milk, dung and for draught power. It plays an important role in socio-cultural life of the tribal people and at special occasions the meat of this animal is considered to be a delicacy. Though the people knew the animal for around 100-500 years ago no scientific research work was done to study the productive and reproductive potential of the animal. National Research Center on Mithun came forward to characterize the animal in terms of qualitative and quantitative traits. This article is

being published to make an attempt to make the people of Nagaland know the Tho-Tho cattle and its performance in terms of qualitative and quantitative traits and at the same time to preserve this unique animal from extinction.

DISTRIBUTION

The animal is widely distributed throughout the state in an area of 16579 Sq.Km between 1000-10,000 feet, which suggests that this animal is quite adaptable in all climatic conditions prevailing in the state.

POPULATION

The total population of Tho-Tho cattle in the state is 89337, which is 39% of the total indigenous cattle population.

UTILITY

Tho - Tho cattle is mainly used for meat purpose. The other utilities of this animal are for dung, milk and draught purpose. This animal is poor milk producer and produces only .5 litres to 1.5 litres per day and the lactation length is only 5-7 months. Draught capacity is medium to light and it can work for 4-5 hrs per day. Besides all these it finds an importance at various social rituals like marriages, gifts, ceremonial sacrifices etc.

Soil :

In hills soils are moderately deep-to-deep well to somewhat excessively drained loamy skeletal, fine loamy to loamy and severely eroded. In narrow valleys soils are swallowed, excessively drained fine loamy and are moderately eroded. Overall the soils are acidic in nature, rich in organic matter and poor in exchangeable bases.

Climatic conditions :

This animal can survive very well in temperature range of 2°C and 31°C, humidity ranging from 31-100% and within an average rainfall of 1778mm.

Elevations :

They are found almost from 1000 feet to 10,000 feet. A total of 25% is found in the range of 1000-3000 feet, 50% between 3000-6000 feet and 25% between 6000-10,000 feet.

Distribution of area :

In the breeding tract a total of 21% is under forest and 23952 and 44232 hectares of land is wholly and partially irrigated.

Crops :

The major cereals grown in the breeding tract area are paddy, maize, millet and sorghum; major cultivated pulses

are naga dal, soybean and pea. Some others crops grown are mustard, French bean, potato, cucumber, chilies, gourd, pineapple, passion fruit, ginger, garlic, squash etc.

Feeds and fodders: The major fodder trees available are subabul, cherry, alder tree, keromite, muvi, Khaboo, ciepho, kuve, Kuviesuhrho, chutii, terhi, lido, huto, noush, muli, etc. Major shrubs are there, djapri, khera, thenhi, godjninyi, sure etc. Fodder grasses found are sege, phikwe, tophalha, sugha, phapudu, ruphi, chotho, zotsu, zusu, phiri, khese etc. Cultivated legume fodder and monocot grasses are napier, berseem, Lucerne, cowpea, naga dal etc. Cultivated tubers are sweet potato, tapioca, colocassia etc. Dry fodders available are paddy straw.

MANAGEMENTAL PRACTICES

Feeding: Free - range system is practiced. Animals are let loose during the day time and kept in the house in night time. They are not provided any feed supplement except common salt, which is provided at regular interval. Some places occasional feeding of maize, broken rice and wheat bran has been recorded.

Housing: The animals are generally kept in Kutcha type house made of locally available cheap materials. Proper sanitary conditions are not maintained in the sheds.

Health care: Tho-Tho cattle are resistant to disease, however

occasional occurrence of FMD, tick infestation, gastrointestinal nematodiasis and non-specific diarrhoea have been recorded.

Breeding: Natural method of breeding is followed.

Reproductive traits of Tho-Tho cattle :

Age at first mounting (Yr)	: 1-2
Age at first estrus (Yr)	: 1.5-2
Age at first service (Yr)	: 1.5-2.5(M) 1.5-3(F)
Estrous cycle (Day)	: 19-24
Estrus duration (H)	: 12-24
Age at first calving (Yr)	: 3-4
Service period (Day)	: 90-180
No. of service per conception	: 1-4
Calving interval (Month)	: 12-18
Gestation length (Month)	: 9-10
Lifetime number of calving	: 7-10

PHYSICAL CHARACTER

Head: Males have broader and wide head when compared with females having narrow head. The shape of the head is convex from lateral view in both the sexes. Horn colours are black and are either straight or curved. Pole is prominent and ear is horizontally erected.

Body and limbs: These cattle's are small to medium with cylindrical body. Neck is long and well set on shoulder. Coat colour is black or black with white spots particularly in forehead, abdomen and legs. Switch colour is either black or

white. Hump is comparatively longer in males. Dewlap is either small or medium. Naval flap and pennies sheath are small

Udder: Udder is small and bowl shaped. Teats are thin, small and pliable as well as the shape is either cylindrical or funnel shaped with rounded tips. The milk veins are small and not prominent.

Temperament: These animals are either docile or tractable or wild.

Body weight: Since Tho-Tho cattle are mainly used for meat purpose, so calculation of body weight can be done using the following formula.

$$\text{Body weight (lb)} = \frac{\text{Heart girth 2 (inch)} \times \text{Body length (inch)}}{300}$$

Parameters on body weight and growth rate of Tho -Tho cattle :

Age groups	Body weight (Kg)	Growth rate (gm)
Upto1 year	66.5	198
1 to 2 years	153.2	231
2 to 3 years	178	242
3 to 4 years	223.1	260.6
Above 4 years	323.5	–

Chemical composition of Tho-Tho Meat :

Particulars	Average (%)
Moisture	68.29 - 75.15
Protein	16.68 - 21.79
Fat	1.77 - 4.82
Carbohydrate	1.29 - 3.15
Fibre	0.52 - 4.90
Ash	0.92 - 1.53
Dressing percentage	48-51%

Composition of Tho-Tho Milk :

Particulars	Average (%)
Total solid	11.41 – 26.85
Solid not fat	4.39 – 11.53
Fat	5.20 – 17.82
Total protein	3.48 – 8.55
True protein	3.11 – 9.94
Non protein nitrogen	0.20 - 0.65
Ash	0.31 – 0.77
Lactose	3.24 – 8.35

*Average lactation length : 5-7 months

*Average milk production: 0.5 – 1.5 litres /day

RECOMMENDATIONS FOR THO-THO CATTLE BY NATIONAL RESEARCH CENTER ON MITHUN, JHARNAPANI

Tho-Tho cattle have been found to be a unique indigenous cattle breed of Nagaland. The following recommendations may be adapted for the development and conservation of this unique animal. Through genetic study on the elite animal is essential to characterize this animal genetically. The farmers rearing elite animal should be identified and encouraged to maintain pure herd by avoiding crossbreeding or breeding with other non-descript local cattle. Organized Tho-tho cattle farms should be maintained under government agencies to conserve the germplasm and for further studies on production and reproduction aspects in these animals.

Scientific breed improvement programme should be implemented in its breeding tract.

Efforts should be initiated to cryopreserve the semen of Tho-Tho cattle for the ex situ conservation and for AI which should be a component of scientific breeding programme in these animals.

Reference:-

Cattle Genetic Resource of India: Tho-Tho Cattle.
National Bureau of Animal Genetic Resources, Karnal and
NRC on Mithun, Medziphema Nagaland.



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