

Salix (*Salix humboldtiana*) tree leaves for feeding to the Yak

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The yak (*Poephagus grunniens*), the life line of high landers is a unique bovine species which plays a major role in the economy of the tribal population living in the difficult terrains in the foot hill of Himalayas. Scanty feed availability in the long winter period (November to March) is a major nutritional factor limiting the performance of yak in terms of production and reproduction. Yaks lose 12-15 per cent of their body weight during winter resulting in increased time taken to reach mature weight, reduced reproductive efficiency, decreased calf survival rate and milk yield. National Research Centre on Yak has initiated steps to develop complete feed blocks (CFB) prepared from locally available agricultural by products, tree fodder and coarse roughage for feeding to the yak during scarcity season. The important locally available tree fodder species commonly fed to yaks in Arunachal Pradesh are phrengpa (*Quercus wallichiana*), sylulili (*Acer campbellii*), salix (*Salix humboldtiana*), belmark (*Buddleja asiatica*), domkar (*Symplocos racemosa*), maar (*Castanopsis* sp), zimbu (*Ligustrum myrsinitis*), karsingh (*Acer hooker*), marma (*Spirala* sp.), bamlakpa (*Embelia robusta*), and bagar (*Berberis* sp). Salix (*Salix humboldtiana*) trees grow at altitude of 4000 – 7000 ft above mean sea level (MSL) at north-eastern part of himalaya. It is a very fast growing tree and its leaf contain about 20.5 % dry matter (DM), 89.1 % organic matter (OM), 14.5 % crude protein (CP), 2.3 % ether extract (EE), 56.6 % neutral detergent fibre (NDF), 29.8 % acid detergent fibre (ADF) and 13.1 % cellulose. Lopping of the salix tree leaves for feeding to the animal can be done from 2-2.5 yr old tree and it can be done throughout the year as a continuous process. Complete feed block (CFB) was prepared utilizing salix tree leaves (contained 25 % maize stover, 25 % salix leaves, 8 % crushed maize grain, 24 % rice polish, 0.5 % groundnut cake, 0.8 % mustard cake, 0.3 % molasses, 02 % mineral mixture and 1 % common salt) and was supplemented to growing yaks during winter season under field condition at Mandela (10,000 ft above msl) of West Kameng District in Arunachal Pradesh taking the yaks from farmers for showing them the beneficial effect of nutrient supplementation during winter season on growth performance in young calves. The lowest temperature of Mandela is being -1.8°C in January and highest temperature being 13.6°C in July with an average temperature of 4.8°C. Due to feeding these CFB, growing yak calves showed 366 g average daily body weight gain. However, at the same time grazing yak loose average 408 g daily body weight due to scarcity of feed as most of the part of grazing pasture remained snow cover. It indicated salix can be used for feeding to the yaks.

Biography

A.Santra has completed his Ph.D at the age of 28 years from Indian Veterinary Research Insitute, Izatnagar, India and postdoctoral studies from CSIRO, Perth, Australia. He is presently working as a Senior Scientist at National Research Centre on Yak (Indian Council of Agricultural research), Dirang, Arunachal Pradesh, India. He has published more than 58 research papers in reputed journals.

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