

## Goat products ,breeding objectives and flock structure on the Tibetan Plateau

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**Introduction** The Tibetan Plateau is one of the three most important livestock production areas in China .With an area of  $129.3 \times 10^6$  ha of grassland ,it accounts for 32.5% of China's total grassland area (Long and Ma ,1996) .There are about  $7 \times 10^6$  goats in the Tibetan Plateau ,and they can be divided into plateau and valley types according to the genetic diversity (Ouyang ,2001) .Herds are distributed within the alpine and subalpine regions ( $N26^{\circ}$ - $36^{\circ}$  , $E75^{\circ}$ - $104^{\circ}$ ) of the Tibetan Plateau and are largely dependent on the native grassland to survive .Tibetan goats are an important source of food ,clothing and income for people who live on the Tibetan Plateau .

**Goats products on the Tibetan Plateau** Tibetan goats are famous for cashmere .Tibet is reputed to produce the finest cashmere in the world because of its high altitude and cold weather .Cashmere shawls produced are very popular ,so cashmere products from Tibet should have very bright prospects on the international market .The cashmere yield of mature goats is high with an average production of 211 g/head for males and 183 g/head for females .In addition ,the quality of meat and leather from goats is good ,but the milk yield is relatively low (0.2 kg/head/day) .The "Plateau" goats mainly produce cashmere and the "valley" type is mostly used for meat production .The meat of Tibetan goats also has commercial value .Wang Jie (2000) showed that besides the high thermal value and amino acid content ,the meat of Tibetan goats has fine and dense muscle fiber and is tender .

**Breeding objectives for Tibetan goats** The environment of the Tibetan Plateau is very severe ; the altitude is high and the long , cold climate period in each year is almost 8 months .Therefore ,Tibetan goats grow slowly ,and individual goats are small .The yield and quality of cashmere are different in various locations .The breeding objectives are therefore to increase the yield and improve the quality of cashmere ,and to increase the growth rate of goats depending on better feeding management and selection of more productive breeds .The shortage of forage during winter and early spring is a key issue for the raising of goats on the Tibetan Plateau .Currently the winter feed is mainly poor straw and oat hay ,with concentrates made from barley and maize seeds with wheat chaff .Goats receive less supplementary fodder over winter than sheep ,and only after kidding .The Tibetan goats only graze in the fenced paddocks for 3 or 4 hours a day in winter .At present ,in view of the degraded pastures ,it has been suggested that the number of goats used for cashmere should be decreased in the pasturing area and the number of meat goats should be increased .The meat goats should produce kids that grow rapidly so that they may be sold within one year . The cashmere goats can be concentrated in the area which is both used for pasturing and agriculture .

**Flock structure of the Tibetan goats** The flock structure of the Tibetan goats is not optimal in most areas .Most flocks comprise 50-200 goats ,of which only about one third are mature females .The ratio of males and females is inappropriate ,the average age of the flock is too high and the proportion of female goats with the capability to reproduce is too low .Therefore ,the following measures should be used to improve the flock structure .First ,the proportion of mature female goats in the flock should be increased .Second ,male goats should be selected and their numbers adjusted for a given time period .Then ,strictly control the age of sale goats and ensure that growth occurs in the proper season .Finally ,use better management methods to improve the nutrition of the goats .

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