

## Improvement of Cashmere from Nomadic Raeini goat

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### Cashmere production

Of the 25 million goats in Iran, 5 millions are cashmere producing and the remaining are meat and milk producing goats. 40% of all goats are kept by nomads (*Ashayer*) (Figure 1) in a habitat of about 59% of the total area of the country.



**Figure 1.** A herd of Raeini goats kept by nomads in Kerman province.

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Iran together with Afghanistan is the third largest producer and exporter of cashmere in the world, after China and Mongolia. Cashmere is a major source of income for Raeini, Nadushan, Birjandi, and Abadeh goat keepers. More than 50% of the Iranian cashmere is produced by Raeini goats.

### Nomadic livestock management

Nomadic livelihoods are based on livestock and their products and usually cover great distances with their livestock, following pasture availability. They do not have permanent settlements and, consequently, use other mobile homes such as tents.

The Raeini nomads graze their herds in Kerman province in spring and summer and migrate to the southern Persian Gulf provinces of Hormozgan and Bushehr in autumn (Figure 2).



**Figure 2.** Regional distribution of Raeini goats.

Adult and young goats which produce different colors of cashmere (Figure 3) are penned overnight separately near the tent in

circular shaped pens made up of wood and fence and are milked by women and children before being taken out for grazing.



**Figure 3.** White, light and dark brown cashmere produced by Raeini goats.

All family members are involved in raising livestock; male family member and hired labourers perform the physically harder jobs like shepherding and breeding and women are involved in milking and caring (Figure 4).



**Figure 4.** Nomad women taking care of Raeini goats.



## Cashmere quality improvement

Raeini cashmere can be characterized as white, long and highly curved. However, compared with cashmere of China and Mongolia it is coarser and is therefore sold at lower prices in the international markets. Nomads can improve their income from cashmere by:

- **Using combs:** Nomad producers do not comb their goats to harvest shed fibres, instead they shear 1-2 months after onset of shedding. As a result cashmere is lost during the shedding season. The use of combs for collection of cashmere would significantly reduce cashmere loss during the shedding season.
- **Sorting cashmere:** Nomads do not sort cashmere in terms of fineness. Sorting the clip by fiber diameter would certainly improve cashmere quality; after harvesting and before packaging cashmere fleeces from one year old goats and that of older goats with fine fleeces should be kept separate from the coarser cashmere fleeces (Figure 5).
- **Requesting price differentials:** At present no price differential is paid to the producers for fine cashmere. Paying price differentials according to diameter would improve the quality of cashmere.



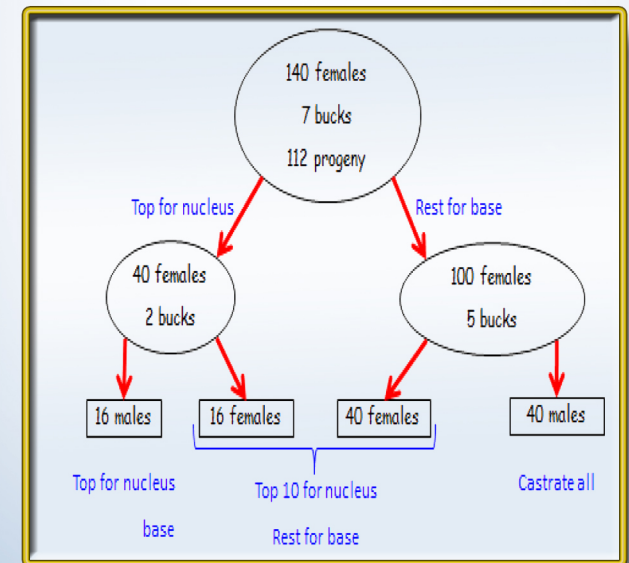
**Figure 5. Cashmere sorting after collection and before dehairing in the factory.**

- **Improving management and breeding:** Significant differences are found between goats and between herds indicating the potential to improve cashmere quality and the need for adopting proper management and selection methods. This may be achieved through selection of goats with finer cashmere taking care of maintaining the excellent cashmere staple length and curvature.

An example of a breeding program for a flock of 140 females, 7 bucks and 112 kids is shown in Figure 6. In this program:

1. Improvement of genetic merit means progeny with higher fleece weights, higher cashmere yields and lower fiber diameter than the parent generation.

2. Selecting and mating the best males with the best females and discarding low producing animals.
3. Best animals should be mated separately in a “nucleus” flock so that progeny born in the nucleus concentrate best genes.
4. Best males born in the nucleus are candidates for replacing inferior and old males in the nucleus and next best go to the “base” flock.
5. Selection of “best” males is based on objective fleece weight and visual fiber diameter assessment.
6. Males not born in the nucleus should be castrated.



**Figure 6. Breeding program for a typical Raeini goat herd.**