

RABBIT PRODUCTION - A COTTAGE INDUSTRY FOR HIMALAYAN REGION

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Rabbit are reared for their wool, meat, pelts, and as fanciful pets by small-scale producers. In our country, this industry is picking up for wool production in hilly areas of Himachal Pradesh, Uttar Pradesh, Jammu & Kashmir and lately in Sikkim and Arunachal Pradesh and as a broiler industry in areas of temperate and subtropical climate in West Bengal, Assam, Manipur, Andhra Pradesh, Tamil Nadu, Kerala and Karnataka. In many tribal and backward areas rabbits are blazing a new trail in the field of self-employment and picked up as cottage industry by small and marginal farmers.

For wool purpose, a number of Angora strains are available and the best amongst them are French, Russian and German Angora (photograph on cover page). Wool production from Angora rabbit is only 40 tons/year out of which Himachal Pradesh accounts for more than half (24 tons)(Figure 1). Some of the important breeds of meat rabbits are New Zealand White, White Giant, Gray Giant, Soviet Chinchilla *etc.* Segregates of Gray Giant like Black Brown and Dutch type rabbits were also introduced. When well managed, they are very productive, reproducing rapidly and producing good quality meat, wool and fur and can be maintained on kitchen waste, non-toxic weed, locally available leaves, agricultural and industrial by products. They are useful animal for individual farmers, village groups and schools. The rabbits can easily be maintained on high forage, low grain diet that is unsuited for human consumption. Moreover, as compared to other livestock, they require low level of nutrients and energy.



Figure 1. Major rabbit growing areas (marked *) in Himachal Pradesh

The smallest unit that a farmer can start with contain 10 does and two bucks. Rabbits are reared in intensive, semi-intensive and extensive system of management. The correct housing for rabbits is very important, cages must give enough room for the animals to hop about and stretch. They must be protective from predators, well ventilated and easy to keep clean. Rabbit can be maintained either in cages or in floor under strict hygienic conditions. Locally available materials like bamboo, timber, wire mesh, asbestos sheet etc. can be used for preparing correct sized cages. An all wire cage (2'x1.5'x1.5') system supported on metal frame, with automatic feeders and waterers seems to be the most popular in small scale units. The optimum temperature and relative humidity for rabbit rearing is 15-20°C and 60-70% , respectively. It is necessary that light should be provided at least 12-16 hours a day. One precaution for handling of rabbit is to lift the animal by holding the skin behind the ears the scruff, with support by the other hand under the hindquarters

Rabbits like a variety of vegetable material. Tree leaves such as biul, mulberry, bamboo etc. are good. Barseen and Lucerne may also be incorporated as per availability. Utilisation of kitchen and garden refuses, weed, leaves etc. make meat and wool production in small enterprise possible independent of available farm land. Pregnant and growing rabbits will do better with some grains (concentrates) added to their diet. Drinking water may be provided ad lib in suitable containers.

Breeding management and maintenance of breeding stock play an important role in rabbit farming. The ratio of male and female for breeding is 1:5. Breeding is quite easy but should be used only after fully grown-normally around 8 months old. Choose only healthy, large rabbits which have come from large litters for breeding. Mating is done

within buck's cage and if females are ready, mating should take place immediately and may last for 30 seconds to a few minutes. After successful service, the buck usually falls to his side and the doe is removed to her cage. If the doe refuses to mate, it can be presented to another buck very next day. Abdominal palpation 10-14 days after mating is a reliable method of diagnosis of pregnant does. Three weeks later, move the pregnant females into a separate cage with a nest box containing bedding material. She will give birth a month after mating. The nest should be checked as soon as after kindling and dead litter if any, are removed. Litter size generally range from 7-8 for medium/heavy breeds. Weaning of young one is usually done at 6-8 weeks of age.

Rabbit meat is now consumed in small quantities in India. The nutritive value of rabbit meat is very high as compared to other meat. Rabbit meat is easily digestible, the protein content is higher than that of many kinds of meat and the protein value of domestic rabbit rank higher than any other meat used for human consumption besides rich in vitamin B and low in fat and cholesterol contents. Under Indian conditions, broiler production has touched 2.2 kg live weight per animal in the age group of 12 weeks. Further skin of rabbit can be tanned and used in garments, lining, shoes, toys, gloves *etc.* at industrial level. About 50% of the total furskin being produced and utilised by the garment industry world over are from rabbits. As such rabbit raising for furskin production in the fur industry can prove to be a boon to the fur industry.

Angora wool is very fine with a mean diameter of 11mm in comparison to 21.5mm of sheep wool and contain a higher percentage of pure wool and better insulation. The first shearing in kids is normally done after weaning (6 weeks of age) and subsequently every 10-12 weeks. Shearing should be planned in such a way that it does not fall during the extreme cold weather of December and January months and animals should be protected from cold for next 2 weeks to reduce shearing stress. Shearing is usually done manually by a pair of barber's scissors or by electric clippers (photograph on coverpage). Economical shearing is usually achieved when the wool fibre is 6cm long. The wool is graded into various grades for better marketing according to guard hair percentage staple length and presence of matted wool. The best wool will be long, white, clean and unmatted and should be stored loosely in cotton bags or card board boxes.

Angora rabbit wool is a high value commodity, which in respect of fitness and warmth is much superior to sheep wool. Its value per unit weight is 4-50 times that of sheep wool. An adult Angora rabbit of German strain will yield an average 800 gm/annum in 3-4 clips which is four times higher than Marino sheep on body weight basis (Figure 2). After blending with sheep wool, it has been found to improve the handling of wool. Shawls made from Merino and Angora wool have been found to substitute costly Pashmina fibre.

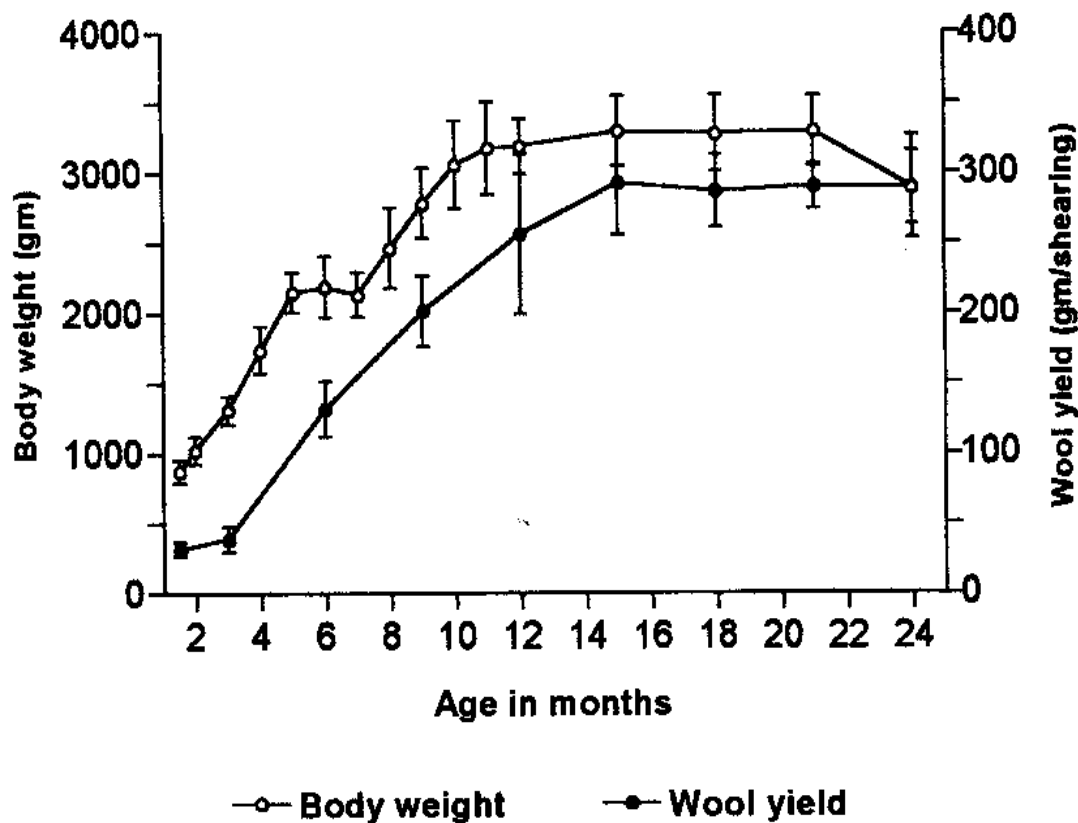


Figure 2. Performance of Angora rabbit in a small farm of Himachal Pradesh

Compared to other farm livestock and poultry, rabbit production is more demanding of technical knowledge and care. Proper sanitation and hygiene is important for successful rabbit production and controlling diseases. The most important diseases of rabbits include coccidiosis, pasteurellosis, enteritis, pneumonia, mange, trichobazoars *etc.*

Some of the measures taken for popularising Angora rabbit farming have been to educate the prospective entrepreneur about various aspects of its husbandry. Presently the state Government impart training in scientific rabbit rearing at various nuclear breeding centres besides supplying the improved seed stock to the needy entrepreneurs in order to boost the various types of literature distributed to apprise the farmers about its economics and salient merits. Government of Himachal Pradesh has announced a support price of Angora wool and introduced market intervention scheme to protect this industry.

Several factors currently limit the economic viability of rabbit production in the region. Rabbit as one of the species of productive livestock has not yet been accepted by animal breeders, scientists and farmers. Due to the less production performance at high temperature, rabbit production is less suitable for hot humid tropics. Since feed is the major cost of production, improvements in feeding and nutrition should aid in making rabbit production profitable. Lack of proper marketing of rabbit meat, fur and wool is also a major constraints faced by the farmers. The susceptibility of the young, is relatively high to diseases originating from the feed of infection. Extension and training activities needs to be strengthened.

