# Some 'Boer' thoughts

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One day a farmer approached me for technical advice for starting a "Boer goat" farm. He had no doubt as to which breed he would rear in his farm and showed some paper cuttings, which appeared in the leading Malayalam dailies, to substantiate his decision. I glanced through the cuttings and thought, any body would be tempted after reading these reports. I am sure my fellow Veterinarians must also had this type of experience and I am sharing my views on this topic based on my knowledge in goat breeding.

I do share the present national feeling that the indigenous breeds evolved by centuries of selection and rearing by farmers should not be spoilt by mixing up with any other breeds, especially exotic. Also, the introduction of any breed, especially an exotic one, should be done after careful research and planning. Our previous experiences in crossbreeding of goats have taught us that.

According to the 1996 census, Kerala had 18.6 lakh goats (which is only half of the cattle population of the state). The vast majority of goats in the state belong to nondescript type producing negligible amount of milk and used mainly for meat. The highly prolific Malabari breed is an exception, and is found mainly in the northern parts of the state. This is a dual-purpose breed reared for milk and meat. The farmers generally rear these animals in semi intensive system of management with 4-6 hours grazing and concentrate feeding in the evening. Farmers feed mainly concentrates to milking animals. Coconut oil cake is the concentrate mostly used. Household waste edible to goats form part of the feed.

The sheds constructed by farmers are of semi permanent nature with raised platforms. Coconut leaves mostly provide the roof. For most of the goats, housing is only for a night shelter.

A Malabari female goat weighs 25-30 kg at one year of age and a male weighs up to 50 kg. The age at sexual maturity is 8 months and the gestation period is 150 days. It kids thrice during a period of two years. Twinning is common. In an estimate done in farmers' flocks, the incidence of singles, twins and triplets were 50, 40 and 10 percent respectively.

The milk production of Malabari goat is around ½ litre a day. But there are females yielding about 2 litres of milk. A family maintaining two goats and their kids can earn an average amount of Rs. 2300-2500 per year by sale of goats and manure. This is in addition to the household requirement of milk, the cost of which works out to be around Rs.1500/-

**Introduction of Boer goats**

The Boer goat has been introduced both by the government and private agencies. This is a meat breed developed in South Africa. The colour is white with a red head and blaze. Legs are short and well fleshed with good thighs and hindquarters. Adult weight is reported to vary from 47 kg in females to 113 kg in males. The average yearling weight is 48 kg in males and 36 kg in females. These reports are based on the performance in New Zealand and Australia. Under feedlot conditions it is reported to gain 200 grams/ day. Indian reports are scanty and one report puts the yearling weight as between 55 to 60 kg.

**Coloration**

The ideal Boer Goat is an animal with red hair on the head and ears, and white on the remainder of the body, and has fully pigmented skin. A face blaze must be evident. Hair coloration varying from light to dark red or brown is permissible. Hair coloration on the head is most desireable if it extends down to an imaginary line connecting the point anterior to the shoulder blades and the point of the brisket. Although this is the ideal, 50% non coloration of the head/neck area is acceptable. Ideally, the ears should be 80% colored and pigmented.

FAULTS: Skin too lightly pigmented (less than 50% coloration of the head and neck area combined).

Age at first parturition was reported to be 18 months and single, twins, triplets and quadruplets were 28%, 54%, 16% and 2% respectively. The inter-kidding interval was 350 days. These figures are based on a report from Botswana.

The following points are to be kept in mind before using these animals extensively in our state:

1. A report from Tamil Nadu states that in a pilot study conducted, mortality among graded kids was higher than their local counter parts. The major cause was reported to be pneumonia and other respiratory ailments. This should be examined in the context of the higher humidity % of our state and the fact that the main reason for kid mortality in the state is pneumonia. This is especially true during heavy rains and in winter months.

2. Our local animals are maintained at a low level of nutrition with minimum inputs. A comparison of economic characters of Malabari and Boer should be made under similar conditions of feeding and management and assessment should be done accordingly. We should remember that the reports of the gain in Boer goats expressed in many cases are under feedlot experiments, wherein animals are provided with maximum best quality feed to express their genetic potential fully .We should always compare the performance of both breeds under similar conditions of feeding and management and economic return should be the main criteria.

3. If the native population is crossed with another breed there is going to be an increased production and growth in the first generation as is expected. This is because of hybrid vigor. The increase in performance that we see in any crossbred population is mainly due to non-additive gene actions like epistasis, dominance and overdominance. These results occur because of a particular combination of genes. Hybrid vigour cannot be fixed or an attempt to maintain heterosis by mating those individuals having the highest degree of heterosis will not be successful in most of the cases. This vigor will not be maintained unless each time we cross our local goats with purebred Boer. This is going to be very difficult under farmers' conditions, as we have experienced in cattle. If we find Boer crosses of superior quality, there should be an arrangement to supply Boer purebred semen. If farmers are allowed to cross the half-breds among themselves or halfbreds with locals, the superior performance will not be repeated or rather there will be reduction in performance in many individuals because of segregation of genes. Reports that crossbred Boer Malabari crosses are being sold at exorbitant rates indicate these halfbreds are going to be used extensively in the field.

4. If we decide on to go ahead with crossbreeding or grading up, there should be rigorous selection after every generation, which is going to be difficult in farmers' herds. It will take many years to get a valid inference even under farm conditions.

5. We have a breed of goat that was evolved centuries back by continued selection and has proved to bel most suitable to our conditions. Let us not disturb that breed.

5. If Boer crosses are found to be adaptable and economic to our situations, we should restrict these to local nondescript goats only.

So introduction of any new breed should be made after careful well planned research studies and professionals should not mislead farmers with exaggerated reports about the production performance elsewhere in the world. We should remember the "broiler goat mania" that existed a few years back which has now ceased among the farmers and professionals of the state.

So crossbreeding experiments should be taken up by Universities or Research organizations (both public and private) under close guidance and supervision. We should remember that in the field of animal breeding, any mistakes committed have grave consequences. So let us be careful.