BREEDING RAM SELECTION AND ITS ROLE IN IMPROVEMENT OF BALOCHISTAN SHEEP BREEDS

Taj Muhammad Hassani[1], Muhammad Kamran Taj[2], and Imran Taj[2]

[1]Food and Agriculture Organization, Balochistan, Pakistan

[2]Centre for Advanced Studies in Vaccinology and Biotechnology, UoB Balochistan, Pakistan

ABSTRACT: An old saying states that **"the ram is half the flock",** since his genes will provide one-half of the genetic makeup of his lambs. One of the primary tools which sheep breeders have at their disposal for the improvement of their herds is selection of breeding ram. Rams are the primary means by which genetic improvement can be made in a flock. If the ram's daughters will be retained in the flock for breeding purposes, he should come from a productive ewe or line. His dam should be one of the most productive members of the flock. Therefore choose rams from good ewes.

The selection, of course, is a group term that includes many activities: recording, identifying, and the use of formal programs involving Record of Performance (R.O.P) testing and so on.

In Balochistan sheep farming communities it may not be possible to fulfill the requirements of a sound R.O.P testing mainly due to noncommercial small ruminant production practices and very low level of literacy. However through this article the sheep farmers of the province can be helped in selecting their breeding rams through visual appraisal on certain desired breeding traits/ characters. The farmers in the province mostly practice breed specific selective breeding and like to retain ewe lambs, from their own breeding rams. Therefore much attention is required towards selection of true to type breeding rams. The ram must beer the traits which are heritable and, definable, by visual methods and which have an economic value. The breeding goals in addition to body growth and conformation must emphasise fleece characters such as fibre length, fibre density and above all the wool colour which should be white with minimum grease, etc.). Use only selected rams for breeding and castrate all males so as to enforce the required breeding traits.Strive to keep inbreeding below 5% per generation. As the coefficient of inbreeding (COI, the degree of relatedness) increases in a flock, inbreeding depression may occur, during which fertility, growth, and other reproductive traits tend to decline. Such declines are especially dramatic when the COI reaches or exceeds 30%. It is therefore advised that the sheep breeders exchange breeding rams.

KEYWORDS: Breeding Ram Selection, Balochistan Sheep Breeds.

VISUAL APPRAISAL OF RAM FOR BREEDING

When visually appraising rams, one has to be much more critical than appraising breeding ewes. Just because a ram has testicles doesn't mean he should be allowed to mate with ewes. If a ram has a serious jaw defect or other genetic flaw, many lambs will be potentially affected, including potential replacement lambs.

There are many things to consider when selecting a new ram for your flock. In this leaflet are listed several general factors that are important to keep in mind when selecting that replacement ram.

BREED CHARACTERISTICS

The province of Balochistan is blessed with four sheep breeds, famous for producing carpet quality coarse wool. Every breed has different characteristics therefore if you want to choose a certain breed ram you should first look up all the criteria it takes for it to be considered like that breed. Balochi breed for example is comparatively a larger framed type sheep that is predominantly white bodied with black muzzle, drooping ears and black dots on ears and around eyes. They also have a roman nose which is arched. This is breed specific. Similarly every breed has different things that make them disqualified, for example if a Bibrik, which is all white, has any black spots in the wool that is a disqualification. For sheep farmer's guidance the main characteristics of all four breeds are summarized as:

i. **Biverrigh (Bibrik):** medium size, fat tail, white body, black or brown muzzle and average adult live weight 27 kg.
ii. **Balochi:** large size, fat tail, white body, black or brown spots on head, legs and some time on body, average adult weight 34 kg.
iii. **Harnai:** medium size, fat tail, body predominantly white, black or brown spots on ears and face, average adult body weight 30-32 kg.
iv. **Rakhshani:** medium to small size, fat tail, white body, white head, black and brown muzzle, finer wool, average adult body weight 28-30 kg.

CONFORMATION OR STRUCTURAL CORRECTNESS

Choosing a ram that is structurally sound is very important. Therefore choose a ram that structurally has the ability to breed ewes on the terrain of your production facility. When looking for structural correctness keep these things in mind: the legs should be straight with good heavy stout bones. Front legs should be set under the animal and not out at sides. Pasterns should be short with toes pointing straight ahead. An animal should walk with a long, smooth stride and should track as wide or wider on the hind legs as the front legs. Therefore select a Ram that is sound, is in good physical condition and free from serious defects. A sound animal will survive and be productive for a longer time than an animal which has physical problems.

HEALTH

When selecting ram for breeding, the most important criteria is health. Starting with unhealthy ram dooms the shepherd to failure. A healthy ram is bright and alert. It does not separate itself from the rest of the flock. It is in good body condition, relative to its stage of production and plane of nutrition. Ram that limp, has abscesses, pink eye, or sore mouth lesions, show respiratory symptoms, or is in extremely poor body condition should not be considered for breeding.

GROWTH AND DEVELOPMENT

Growth and development is another important aspect in selecting a new ram. You should not select a ram that produces lambs that are slow growing and mature out at a smaller size and structure. This is important and great way to see how a ram produces would be to look at his sire and see all the lambs he has produced and how they look compared to him. If you are selecting an older established ram to purchase then you should go to the farms when lambs are on the ground to see what type of lambs he generally produces and compare the farmers' ewes to yours to get an idea what he might do for your flock.

TESTICLE SIZE

When selecting a replacement ram you must analyze testicle size. Testicle size is directly related to fertility. Larger testicles indicate more sperm producing ability. Though scrotal size varies by breed, body condition, and season, ram lamb to be used for breeding should have a scrotal size of at least 30 centimeters; mature rams, 32 centimeters. Scrotal size affects a ram's semen output. There are also correlations between a ram's scrotal size and the reproductive performance of his daughters. Therefore while choosing a Ram Scrotal Circumference can also be used as an analytical tool. A general rule of thumb states that any ram prospect with a Scrotal Circumference under 30 cm should not be used. In addition, the ram's testicles should be palpated to determine that they are well-developed and normal. They should be firm, evenly sized, and move freely within the scrotum.
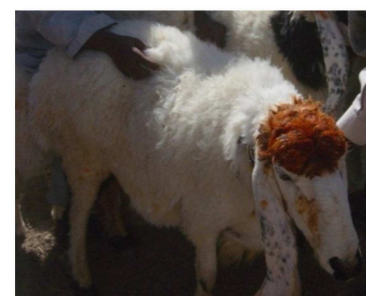
TEETH

The condition of a ram's teeth depends upon its diet and the land where it lives. Animals on a rough, coarse diet will grind their teeth away faster than animals on an easily eaten diet. The molar teeth are far more important than the incisor teeth. They do the grinding of feed. To evaluate the molar teeth, you have to feel on the outside of the cheek and jaw. Bad breath can be a sign that there is something wrong with the molar teeth. Animals with teeth problems should be not selected for breeding.

WOOL

When wool production is an important aspect of the sheep enterprise, breeding ram selection criteria should include fleece traits: fiber diameter, staple length, uniformity of length and diameter, and freedom from defects. White-wooled sheep should be free from colored fibers. Fleeces should be dense and free from Kemp and medulated fibers. Rams that have excessive wrinkles should not be selected for breeding. For the guidance of project farmers the wool characteristics of all four breeds are summarized as:

I. **Biverrigh (Bibrik):** Fleece weight-1.54 Kg/year,woolcolour 100% white, staple length 5.2 cm with fibre diameter 43.5 microns, true wool fibres 59.4%.
II. **Balochi:** Fleece weight-2.4 Kg/year ,wool colour 100% white, staple length 5.2 cm with fibre diameter 43.5 microns, true wool fibre 68.9 %.
III. **Harnai:** Fleece weight-1.37 Kg/year,woolcolour90 % white, staple length 7.0 cm with fibre diameter 30.7 microns, true wool fibres 76.7%.
IV. **Rakhshani:** Fleece weight-0.9 Kg/year ,wool colour95.5% white, staple length 7.3 cm with fibre diameter 30.9 microns, true wool fibres70.8%.