



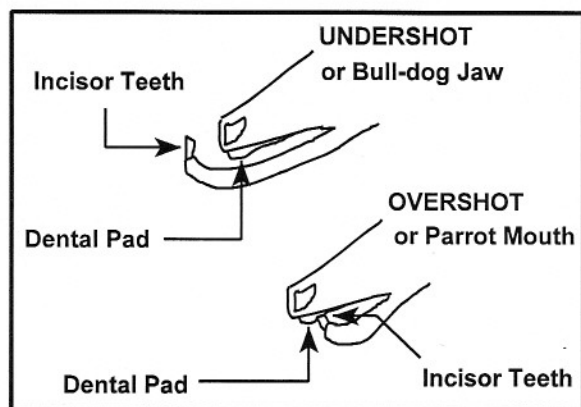
SHEEP SHEET

by Dr. Lyle G. McNeal, Executive Director, Sheep & Wool Specialist
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The defects known as “bull-dog jaw” (undershot) and “parrot mouth” (overshot) appear occasionally as genetic abnormalities in most breeds of sheep. Breeders usually recognize these defects and rigorously cull all animals possessing them, in most cases disposing of the entire strain or family line from which the abnormal animals came. Over the years as I have evaluated both commercial and purebred sheep either in the show ring or out on the range, it has appeared to me that these jaw defects are on the increase in frequency.

Nature of the genetic defect:

The **bull-dog jaw**, also call **undershot jaw**, is caused by the lower jaw growing longer than the upper jaw. In bad cases, a finger, and sometimes two can be placed between the incisor teeth and the dental pad. However, there are a good many degrees of this condition, ranging from a mildly undershot jaw to very bad cases. In **parrot mouth** or **overshot jaw**, it is the lower jaw which is short, thus causing the incisor teeth to register either on the roof of the mouth or on the back portion of the dental pad.



Bulldog Jaw and Parrot Mouth Defects in Sheep

Sheepdex G-11

Handicap to sheep:

In sheep, with normal mouths the incisor teeth register at the front angle of the dental pad, thus enabling them to graze efficiently. Sheep with either overshot or undershot jaws have difficulty in grazing on short forage and therefore can become unthrifty, especially during dry spells or drought conditions. When grazing sheep with one or the other of these defects tend to hold their heads at an unnatural angle in order to bite more closely to the ground. Moreover, they cannot bite properly, since the incisor teeth either do not register with the dental pad, or do so in the wrong place. Moreover, the incisor teeth of sheep with parrot or overshot jaws have a tendency to wear down more quickly, especially on desert-sandy-type grazing conditions. In addition to grazing being difficult, the teeth of overshot- and undershot-jawed sheep are likely to be of poor quality, and it is possible also that the molars of the upper and lower jaws in many cases do not register properly with one another, thus interfering with mastication (chewing).

Occurrence:

Overshot or undershot jaws have been occurring in sheep throughout the United States. The defects occur in all breeds of sheep. They are especially common in some of the meat-type breeds, i.e. Suffolk, Hampshire, Dorset, Southdown, Shropshire, Oxford, etc. However, it also occurs in Rambouillet, Merino, Columbia, Targhee and other wool breeds. The sale of registered and/or purebred rams either showing or carrying the defect has been the cause of defective-mouthed sheep in both farm flocks and commercial range bands. The jaw defects are especially undesirable in the case of range lambs when put into the feedlot to finish, as such lambs make little use of concentrate (grain) diets. Of the two defects, bull-dog jaw or undershot jaw seems to be the more common, and is probably a greater handicap to sheep than parrot-mouth or overshot jaw.

Inheritance:

Overshot and undershot jaws in sheep are definitely inherited traits. That they are not caused by the absence of some essential food nutrient, is apparent, because normal and defective sheep appear in the same flock raised under identical conditions; nor are the defects due, as some breeders propose at time, to trough feeding. However, some sheep may have jaws slightly overshot or undershot, due to slightly disproportionate growth of the jaws rather than to heredity factors. Should such sheep throw lambs, however, with medium or badly defective mouths, they ought then to be culled, together with their progeny.

These defects are known to geneticists as "recessive characters," which means both rams and ewes may have normal mouths and yet throw some lambs with either overshot or undershot jaws. The defects can thus be carried as hidden traits, and when lambs appear possessing one or the other of these defects, it signifies that both ram and ewe, are not just one of the parents, are carrying the defects as a hidden trait. The question may be asked then, "How can I distinguish rams or ewes which have normal mouths but are carrying one or the other of the defects, from those which are free from them?" The answer is that there are only two ways to tell: 1) through the progeny, that is, whether any of the lambs have overshot or undershot jaws; and 2) if their sires or dams or other ancestors had defective mouths.

Methods of eradication:

In order to reduce the number of sheep affected with either overshot or undershot jaws, it is absolutely necessary that breeders recognize these defects and cull their sheep accordingly. For purebred breeders the most effective method of ridding the flock of the defects is to cull the entire strain or family line from which the defective animals came. When sheep are sold or offered for sale and purchased for breeding purposes with either one or the other of these defects, it indicates that breeders as a whole are not fully aware of these undesirable traits. Breeders are warned that the defects are not very noticeable in lambs until their jaws are so developed that the difference in length of the upper and lower jaws becomes pronounced. The magnitude of defective jaws, however, varies considerably from mild to bad cases. It is necessary, therefore, that breeders should distinguish between mild to bad cases of overshot and undershot jaw and normal animals that have jaws slightly disproportionate in lengths.

Thus, the setting of the milk teeth might indicate a slightly undershot jaw, but the permanent teeth might come in at a more normal position and thus give the mouth a normal appearance. In some cases, too, the jaws tend to become more even with increasing age, but in others they get worse.

A few steps that can serve as a guide to rid the flock of these undesirable traits:

Rams:

1. Use only rams that are not only free from bulldog jaw or parrot mouth themselves, but are from ancestors none of which have one or the other of the defects.
2. Select carefully the ewe flock from which ram lambs are to be saved.
3. Do not use a ram a second year if he throws lambs with defective jaws.

Ewes:

1. Cull out all ewes that have one or the other of the defects and sell such ewes for slaughter.
2. Ear mark or otherwise identify all normal-mouthed ewes that throw lambs with the defect and cull such ewes for slaughter.
3. Market all lambs, or at least all ram lambs, from ewes or rams known to throw the defect to their progeny.

With the practice of a rigid policy culling, the percentage of sheep having defective jaws should soon be reduced to small proportions. Moreover, a knowledge of the nature of these defects and their handicap to sheep on the part of breeders and ranchers, certainly is of value.



*For more information write:
The Navajo Sheep Project;
Serving People, Preserving Cultures®,
P.O. Box 4454,
Logan, UT 84323-4454.
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