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A SIMPLE MEASURING DEVICE FOR SHEEP HORNS

P. Merchant, M. Hoefs, T. Nette, W. Kale, M. Janssen
Yukon Wildlife Division, Box 2703, Whitehorse, Y. T., Canada

ABSTRACT

A simple measuring device as described, is used by the Yukon Wildlife Division to evaluate the trophies of sheep. The device has allowed a standardization of trophy assessments and has thereby helped to overcome legal problems with the definition of "full-curl" rules.

INTRODUCTION

Since initiation of regulated sheep hunting in the Yukon early this century, there have been repeated changes in the definition of "legal" sheep. Often those changes were not based on biological rationale, but were precipitated through legal disputes. Biologists, enforcement officers, hunters and the courts have interpreted definitions of "legal" sheep differently, and a given trophy was sometimes considered "legal" by the hunter, who shot it, but "illegal" by Government enforcement officers. For those reasons, charges have been dismissed by the courts, and "so-called" offenders of game laws were not prosecuted.

Most jurisdictions in North America, which allow the hunting of wild sheep, use morphological parameters of the horns in the definition of "legal ram". Often the term "degree curl" is applied, which means that the horns of a ram have to circumscribe an angle of 270°, if the law states that "3/4 curl" rams are legal; or where "full-curl" is the rule, jurisdiction may accept rams with horns circumscribing angles of 315° or 360°.

In the Yukon a "full-curl" rule is in effect for sheep hunting, but the definition of "full-curl" has been changed repeatedly over the years to make it acceptable to hunters, government officials and courts alike.

In the following summary, we describe the present definition of "full-curl" and more specifically we deal with a simple measuring device, which has been developed to demonstrate the "legality" of a trophy ram, in a convenient, standardized manner, according to legal definition.

DEFINITIONS OF "LEGAL RAM"

The Yukon hunting regulations state that only "full-curl" rams can be hunted and define it as follows:

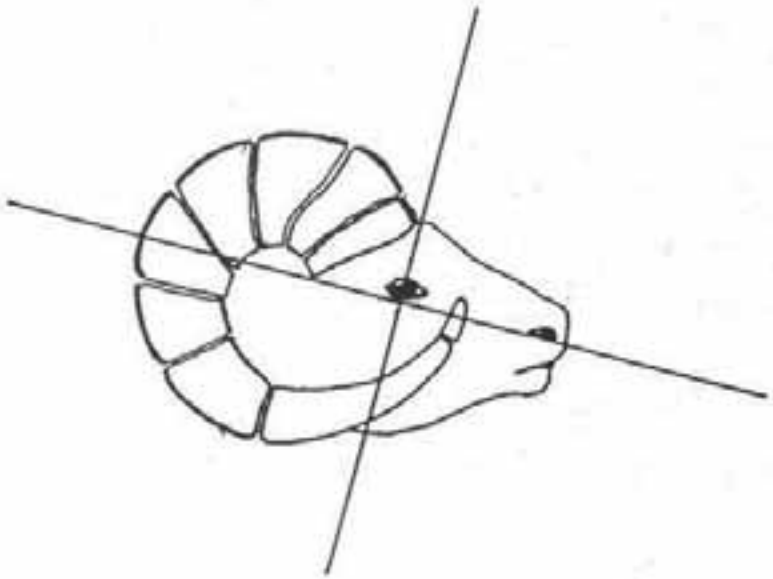
"Full-curl" with respect to mountain sheep means any male that:

(a) has attained the age of 9 years as determined by the horn annuli, or

(b) when viewed from the side with both anterior horn bases in alignment has at least one horn tip extending upwards of a straight line projected through the centre of the nostril and the lower most edge of the eye, or

(c) if the intact head is not presented for examination, when viewed from the side with posterior horn bases in alignmnt, has at least one horn tip extending upwards of a straight line projected through the posterior horn base and a point three centimetres below the highest part of the inside of the eye socket rim:" (Fig. 1).

Fig. 1 "Full-curl" ram as defined in Yukon Hunting Regulations.



Age has been used in addition to morphological features of the skull to allow the hunting of old rams whose horns may not attain "full-curl" requirement because of brooming or extreme flaring of horn tips.

Of the 2 sections (b and c) of this definition using horn and skull morphology, section (b) is referred to as the "field definition", because it is this, which has to be applied during the hunt, while section (c) constitutes a substitute for (b) used for trophy inspections after the hunt, as elaborated below.

Nostrils and eyes are used as reference points in the field definition. It is common practice to skin the sheep after it has been shot and to saw off part of the skull with the horns attached for mounting purposes. Nostrils and eyes are, therefore, often not present when the skulls are submitted for legal inspection. It was therefore necessary to establish additional reference points for the evaluation of trophies.

Measurements on a representative sample of skulls revealed that an imaginary line connecting the center of the nostril with the lower most edge of the eye, if extended, also touches the posterior base of the horn. This therefore, provided an additional reference point, that can be used on a skinned head. In addition, we established through repeated measurements, that the lower most edge of the eye in an unskinned head, corresponds - liberally interpreted - to a point approximately 3 cm below the highest portion of the eye socket in a skinned specimen. The eye sockets are therefore, used in connection with posterior horn bases for assessments of specimens that are submitted in a skinned and capped state, and the device described in the following section, was designed to make use of these anatomical features.

As pointed out, a "liberal" interpretation was used in the assessment of these 2 imaginary lines, giving the benefit of the doubt to the hunter. Anatomical features such as eyes, nostrils and horn bases are "areas" and not fixed reference points, and variations exist among skulls. Under our interpretation a ram that was legal under the field definition, will always be legal using the laboratory inspection method.

DESCRIPTION OF MEASURING JIG

Over the years a number of devices have been used by Yukon wildlife managers to evaluate sheep trophies. They have undergone repeated modifications, and the final version, described here, is easy to use, establishes standardization of measurements, and is accepted by government officials as well as the hunting fraternity. It is being used in all Yukon district offices and interest in its use has been expressed by N.W.T. nd B.C. Wildlife staff. The device will briefly be discussed by means of photographs and a narrative. Readers interested in more detail can obtain a full scale plan on request.

Fig. 2 shows a picture of this sheep horn measuring device and Fig. 3 gives a reduced technical drawing of it. The device is constructed of 3/4" plywood, its external dimensions being about 23" x 13" x 11". The fork-shaped upper plane allows for the insertion of the sheep skull and its exact positioning according to the legal definition (section c) of "full-curl" by means of horn base plates, eye pin assemblies and a skull clamp. "Clamped-in" skulls are shown in Fig. 4 and 5. The following "instruction for use" refers to parts of this device, by means of letters, which are also indicated on the photos for clarification.

1. Remove skull clamp (B) from clamp slide (C).

2. Loosen eye pin assembly (A) and move aside.

3. Place sheep skull in jig with the posterior edges of the horn bases on the horn base plates (D).

4. Slide eye pin assembly (A) back into position so that upper rim of eye socket is resting on the eye socket pin.

5. Replace skull clamp (B) onto slide (C) and lower it down until it hits skull. Tighten clamp (B) while holding skull firmly on horn base plates (D) and eye socket pin assembly (A).

With the skull firmly clamped into position, at least 1 horn tip must extend above the plane created by the measuring arms (E). This plane can be defined by placing a straight edge across the measuring arms (E). Fig. 4 shows a ram skull whose horn tip does not reach the plane created by the measuring arms. It is, therefore, not legal. In Fig. 6 a skull is shown whose horn tip extends above this plane. This is a legal trophy. By modifying the eye pin assembly it is possible to accommodate other legal definitions; i.e. those that use the bridge of the nose as reference point.

DISCUSSION

Application of this sheep horn measuring device has not only helped to overcome legal problems by allowing an accepted standardization of evaluation, it also is useful in the assessment of various horn morphological parameters for biological purposes.

In the Yukon, photographs are taken of all ram skulls submitted, by placing the camera at the same level as the measuring arms of this jig, and taking frontal (Fig. 5) as well as lateral photos (Figs. 4, 6). Prior to taking these pictures the annual rings are marked with chalk, to allow easy detection on the prints. On the prints evaluations can then be conducted of such factors as "angular horns growth" (Fig. 6), extent of horn tip wear, extent of brooming, horn curl diameter and horn spread. These photos constitute a permanent record, while most sheep trophies themselves are exported from the Yukon and available to wildlife officials for only a very short time.

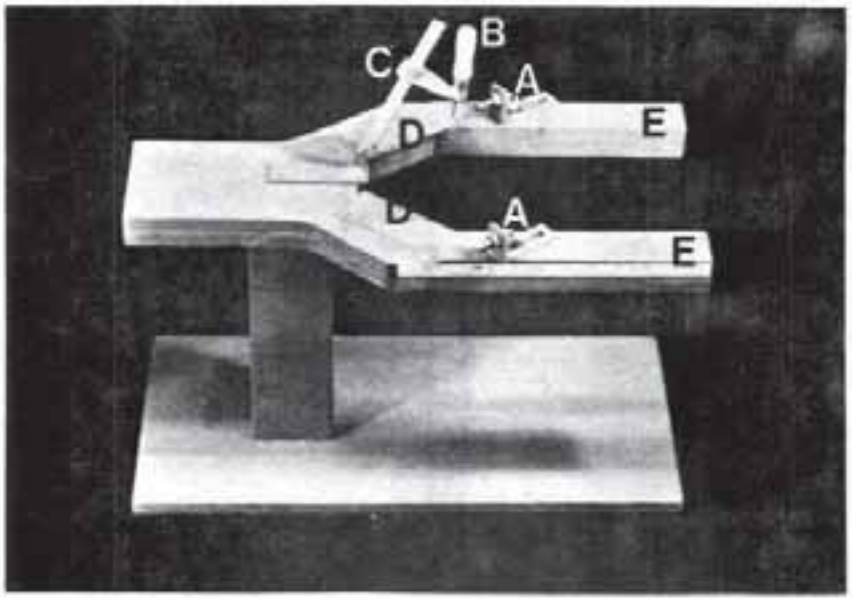


Fig. 2.

Oblique view of sheep horn measuring devise.

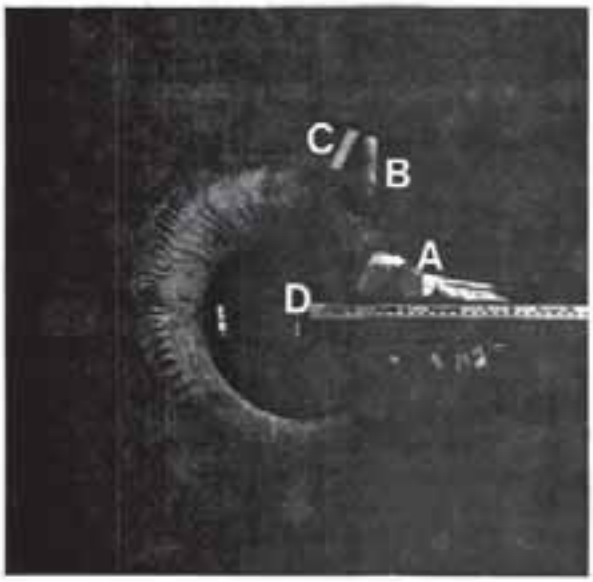


Fig. 4. "Clamped-in" illegal skull of ram (lateral view).

Fig. 5. "Clamped-in" skull (frontal view).

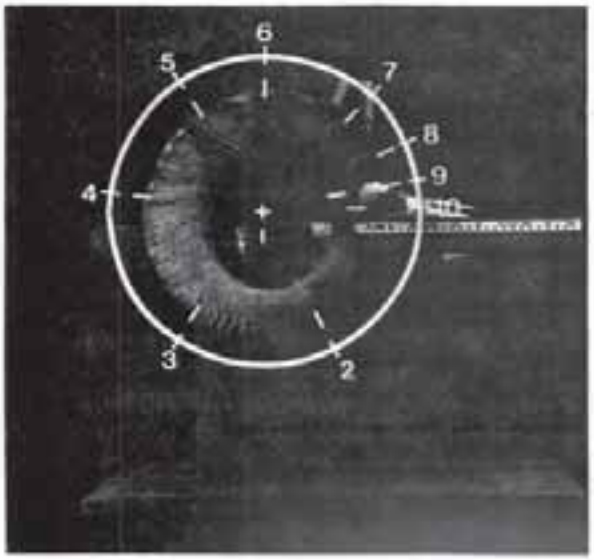
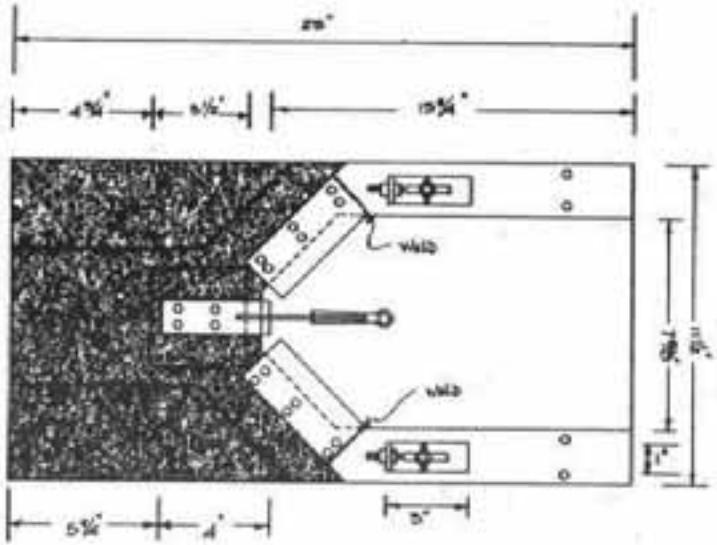
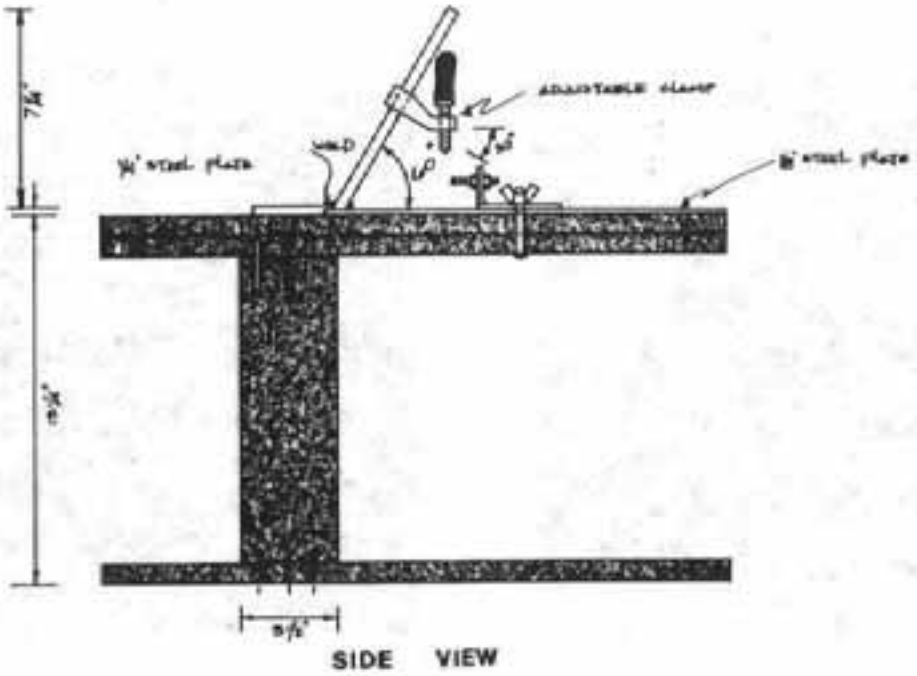


Fig. 6. "Clamped-in" legal skull of ram (lateral view), showing annuli and assessment of "angular" horn growth.





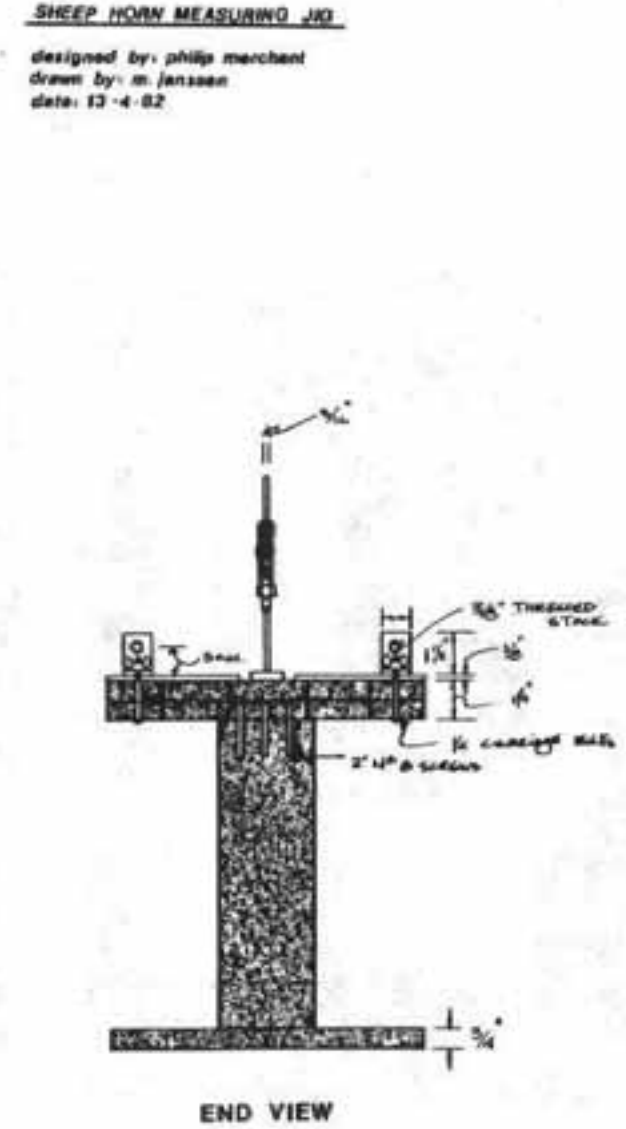


Fig. 3. Sheep Horn Measuring Jig