

The Age of a Deer

Charles W. Ramsey and Milo J. Shult
Extension Wildlife Specialists
The Texas A&M University System

Tooth eruption and wear in deer are closely related to the age of the animal. Deer shed and replace milk teeth with permanent teeth at consistent ages. They replace all incisiform milk teeth (front teeth) by 7 months and milk premolars by 19 months. Thus, beyond the fawn stage, a deer's age, unlike the age of sheep, goats, and cattle, cannot be determined by examining front teeth replacement.

As a deer grows older, certain portions of its permanent teeth, particularly crests of its jaw teeth, wear and expose increasing amounts of dark dentine. Biologists observed this phenomenon and, working with deer of known ages, developed criteria for characterizing age classes based on tooth replacement and wear. They identified most age classes on the basis of the relative amount of exposed dentine on the lingual crests (next to the tongue) of molar teeth. However, the criteria for age classes differ between species.

Texas biologists and technicians tested the technique with white-tailed deer of known ages from the Edwards Plateau and Post Oak Savannah. In testing, they found a small percentage of known-age animals that did not fit their corresponding age-class criteria, but these were only 1 year off. They discovered that the greatest source of error was misinterpreting age-class criteria which caused them to assign 1 extra year to the age of mature animals (4+ years-of-age).

To calculate a deer's age accurately, the scientists learned that they had to use all criteria for an age class because accident, deformity or individual variation can cause wear on any single tooth. They found that using multiple characteristics tended to be self-correcting. Because this technique generally has been accurate in determining the age of white-tailed deer, it also has been adapted for use with mule deer and elk.

Key Words

Terms used when determining a deer's age by tooth replacement and wear.

Premolars: the rather narrow jaw teeth in front of the molars adapted to cutting food—tooth 1, 2, and 3.

Molars: the large jaw teeth adapted for grinding food—tooth 4, 5 and 6.

Milk teeth: temporary teeth in young animals which are shed by 2 years of age.

Permanent teeth: teeth which replace milk teeth and remain throughout an animal's life.

Gum line: point to which flesh of the gum covers a tooth. Food stains are deposited above the gum.

Lingual crests: tooth ridges running from front to back adjacent to the tongue.

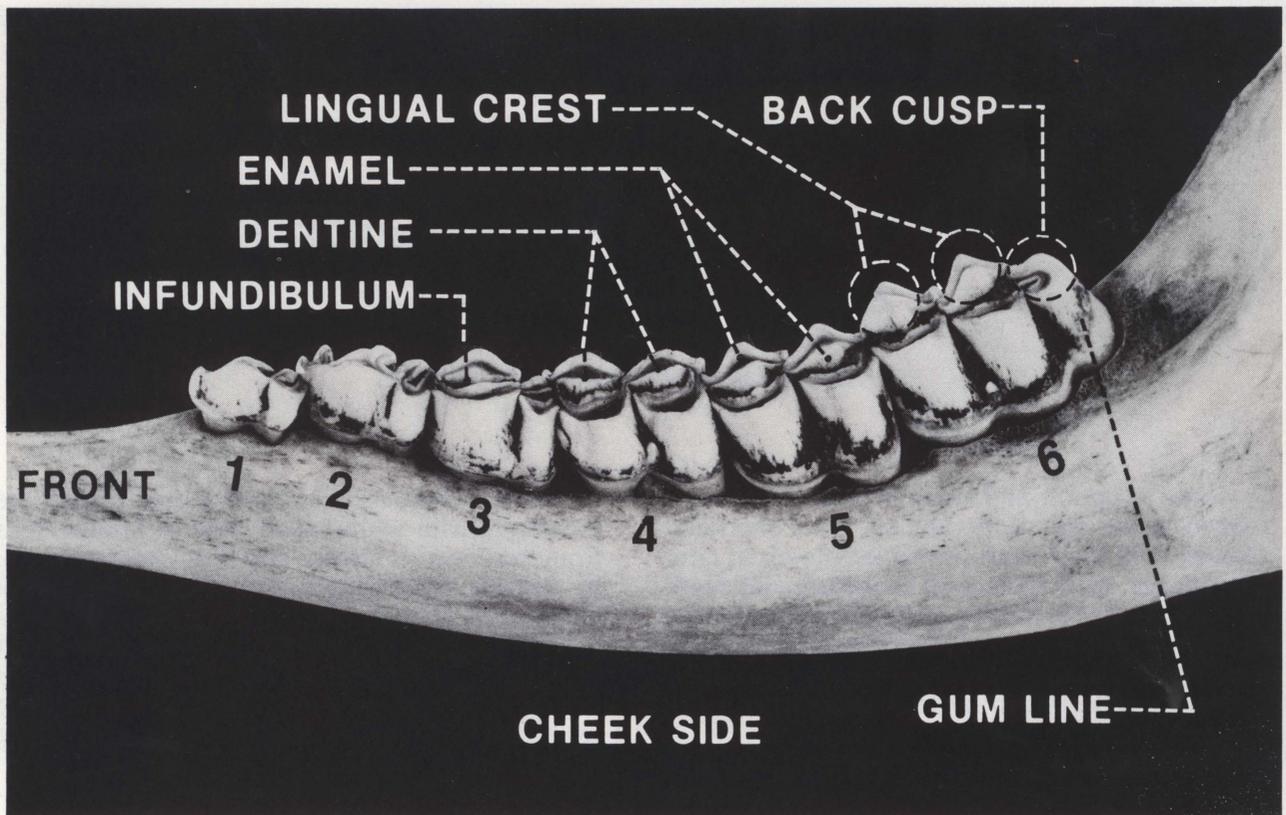
Cusps: the points or projections on the surface of a tooth.

Infundibulum: the funnel-shaped depression in the central crown of tooth between crests. Exterior surfaces will be stained dark.

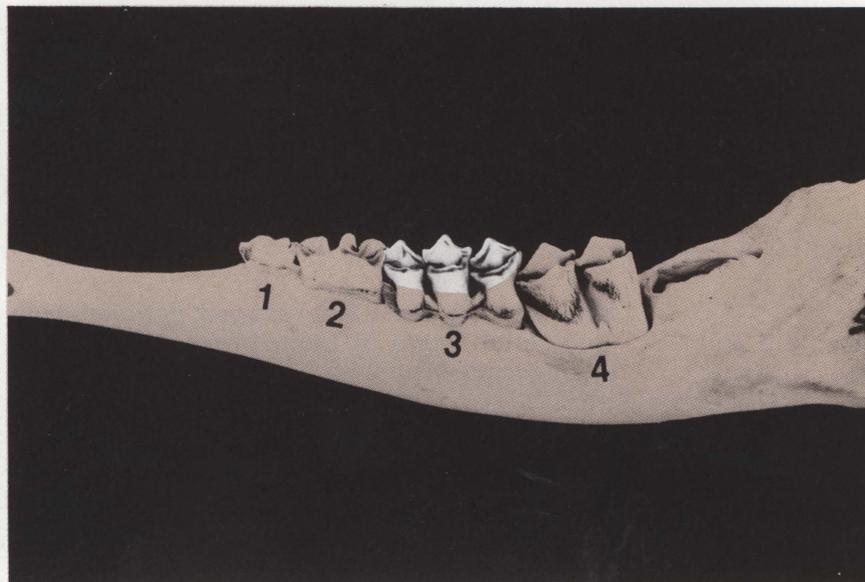
Enamel: the hard, white outer coat of a tooth.

Dentine: the softer inner core of a tooth, much darker in color than the enamel.





The major tooth parts used in determining a deer's age are shown in this three-quarters top view of a deer's jaw.

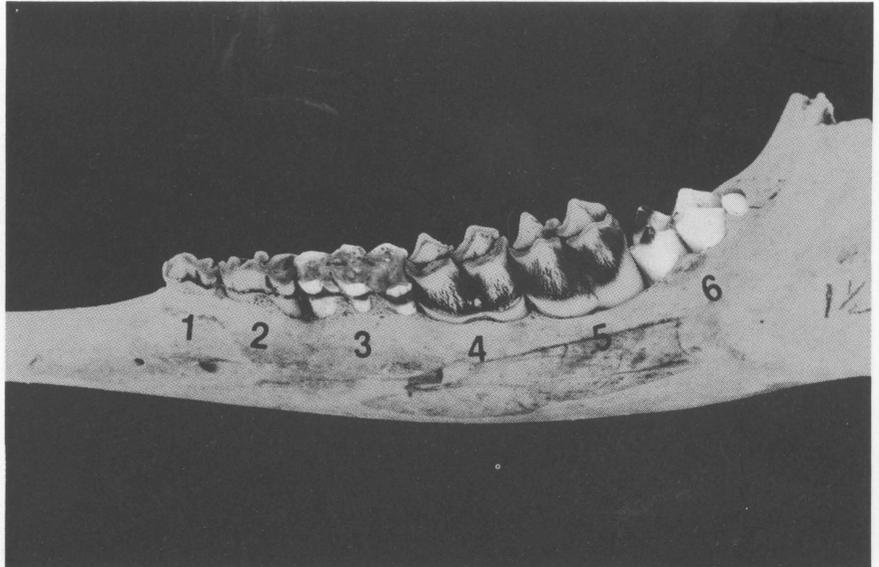


1/2 year

Less than six teeth are present in the jaw (usually four teeth for ages 5 and 6 months and five teeth for 7 months). Tooth 1, 2 and 3 are temporary (milk) teeth. Tooth 3 has three cusps. Tooth 4 is the first permanent tooth to erupt.

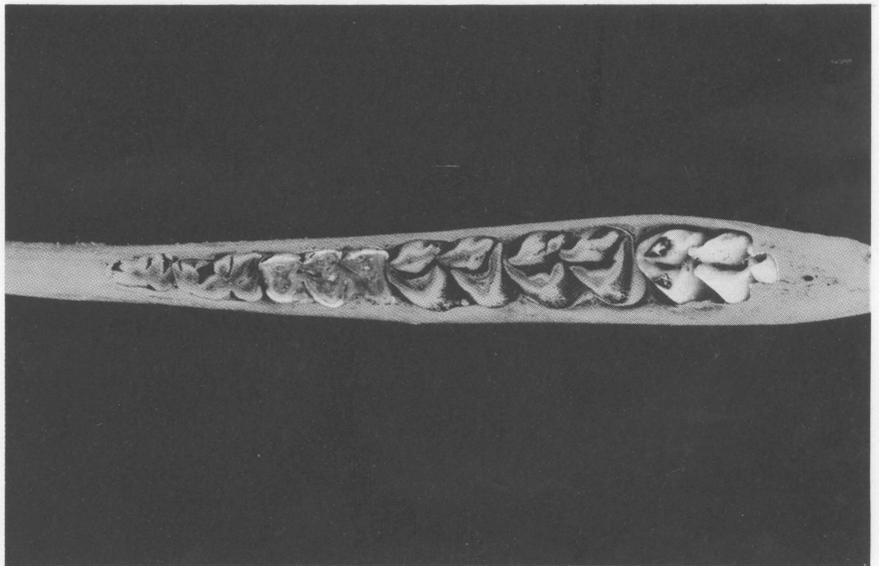
1½ years

Six teeth are present in the jaw.
Tooth 6—not fully erupted through gum (gum line high on back cusp).

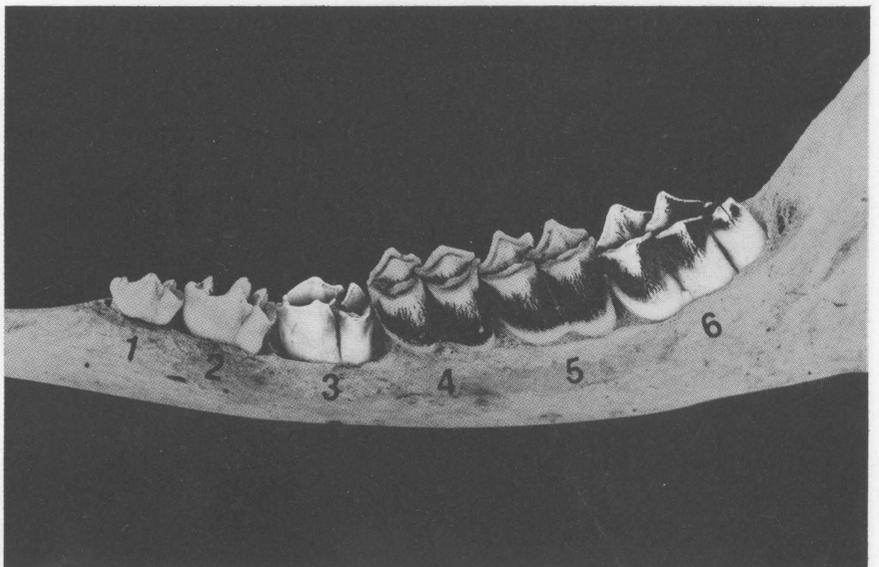


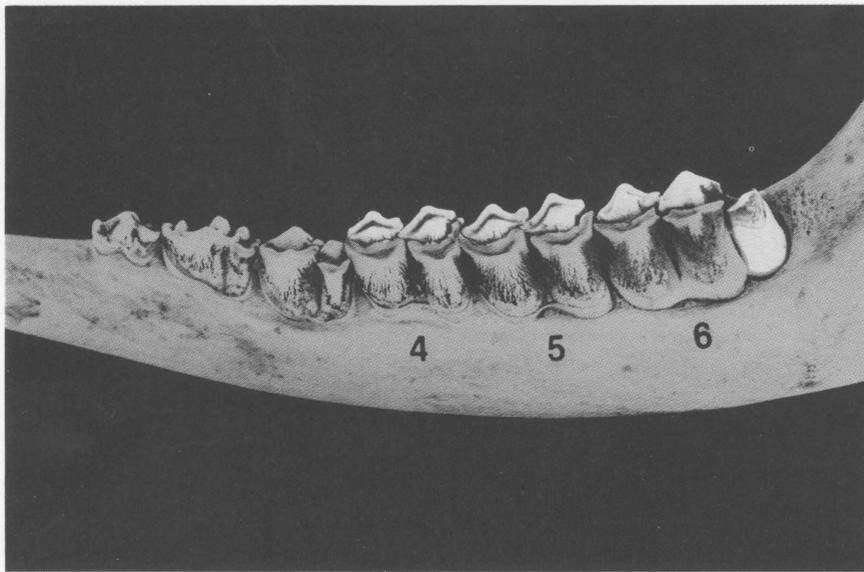
Caution—there may be either of two conditions for the pre-molars:

- Tooth 3—a milk tooth with three cusps may be heavily worn (less than 1 year, 6 months of age). This is the most common condition.



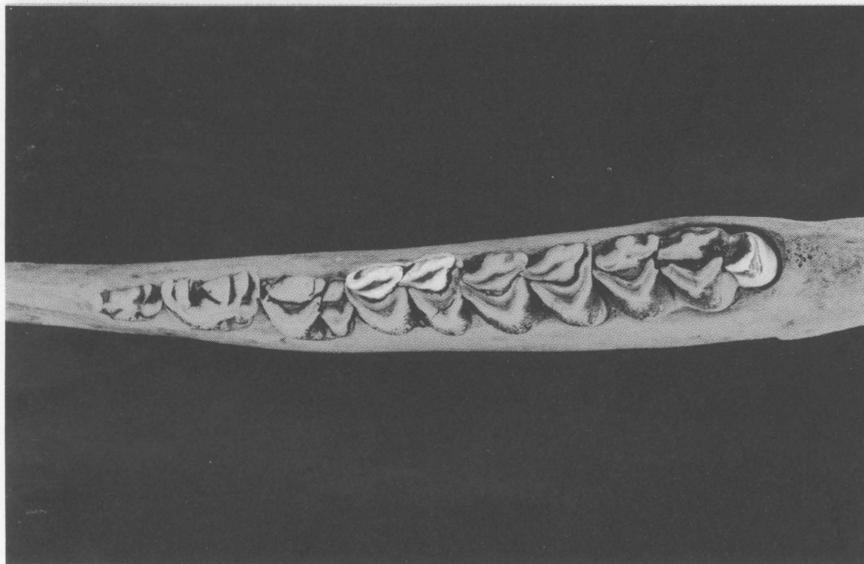
- Tooth 3—a permanent tooth with two cusps may have replaced its milk tooth. This two-part tooth is white or much less stained than adjacent tooth 4 (1 year, 6 months of age or older).



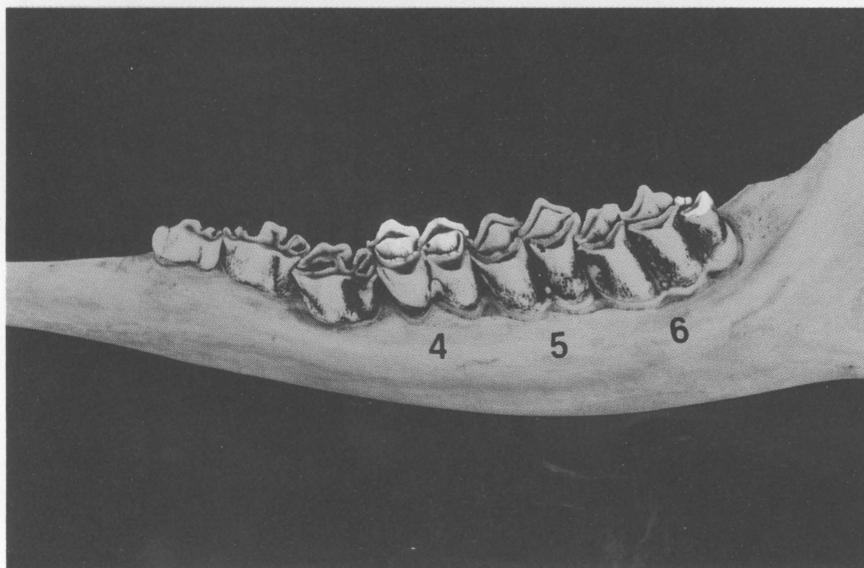


2½ years

Lingual crests on all molars are sharp. Tooth 6—gum line is high on back cusp.



Tooth 4—lingual crest has enamel well above narrow dentine of crest. Tooth 6—wear on back cusp is very slight (dentine, if showing, in narrow line).



3½ years

Tooth 4—lingual crests are blunt. Tooth 6—back cusp is worn to a definite concavity.

Tooth 4—dark dentine line in lingual crests is wider than the enamel bordering it, but not in tooth 5 or tooth 6.

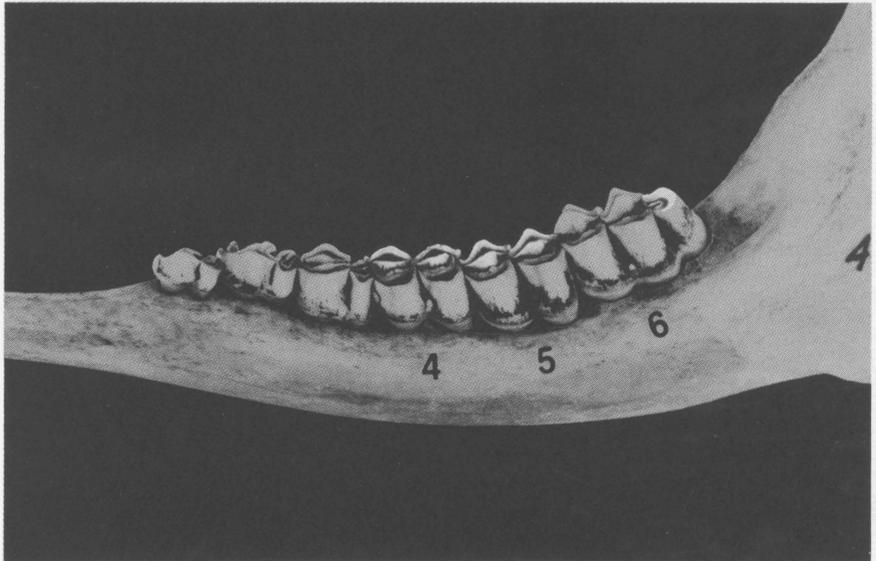
Tooth 6—back cusp is worn concave.



4½ years

Tooth 4—lingual crests are almost worn away.

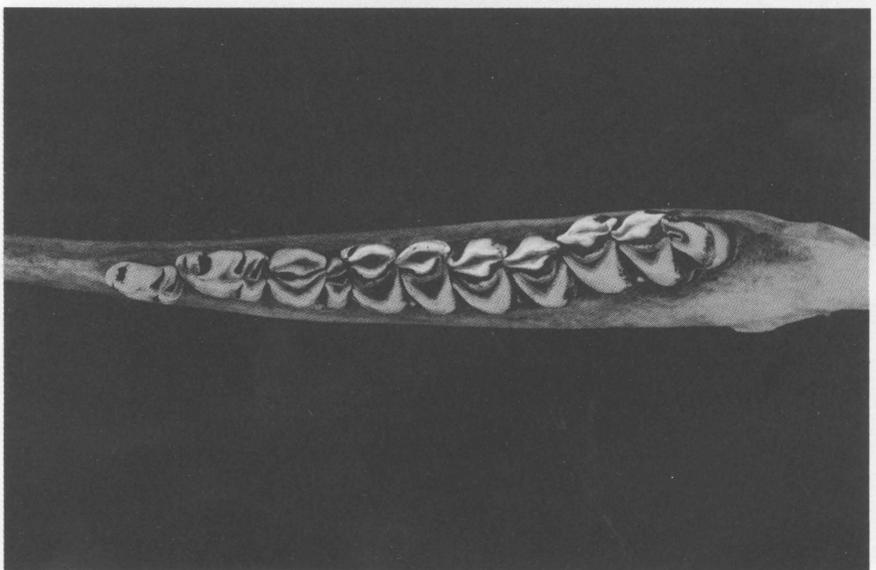
Tooth 5—lingual crests are blunt. Tooth 6—back cusp is worn so badly that the outward surface slopes downward.

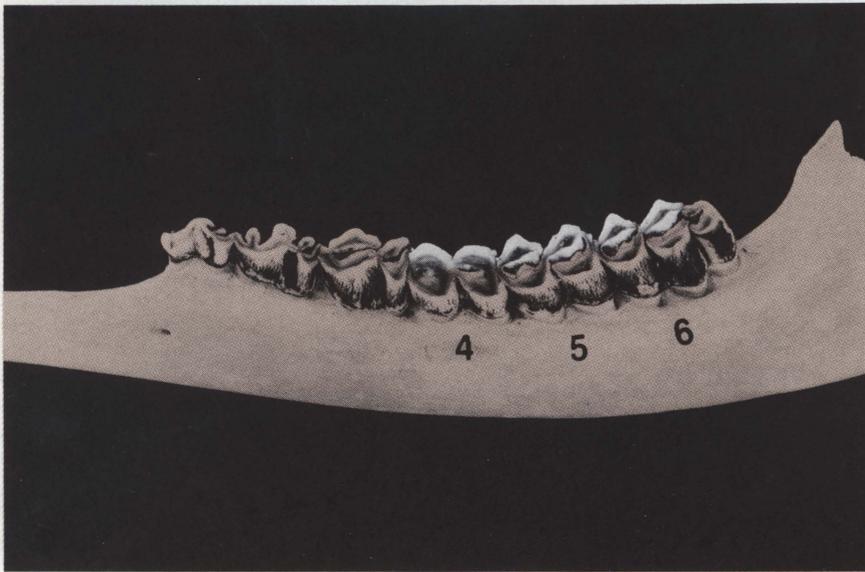


Tooth 4—dark dentine line in lingual crest is almost twice as wide as the enamel bordering it.

Tooth 5—dentine in lingual crest is wider than enamel.

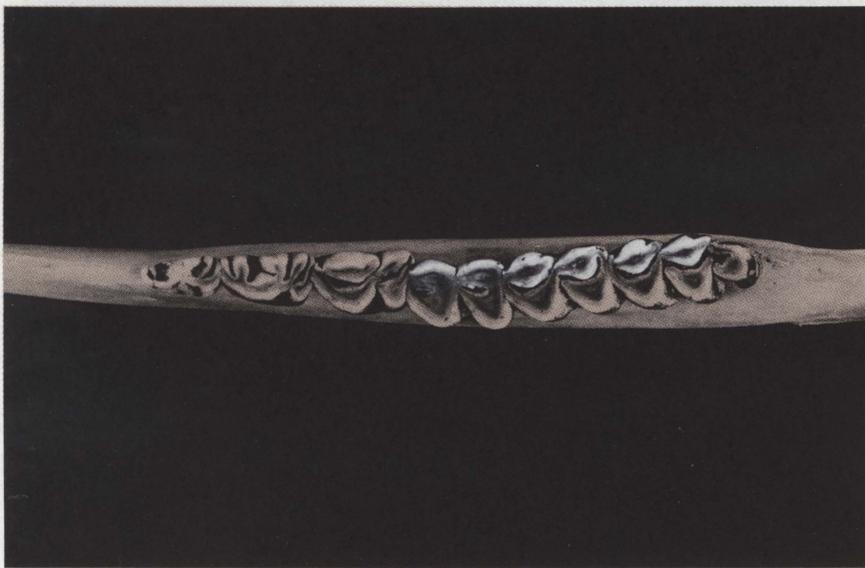
Tooth 6—dentine in lingual crest is about as wide as enamel.



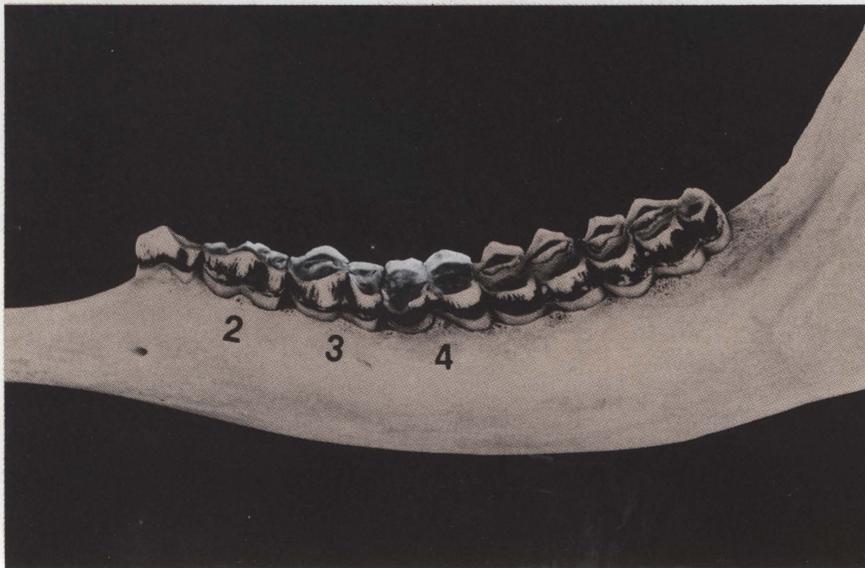


5½ years

Tooth 4 and tooth 5—lingual crests are worn away to rounded ridges. Tooth 6—lingual crests are blunt.



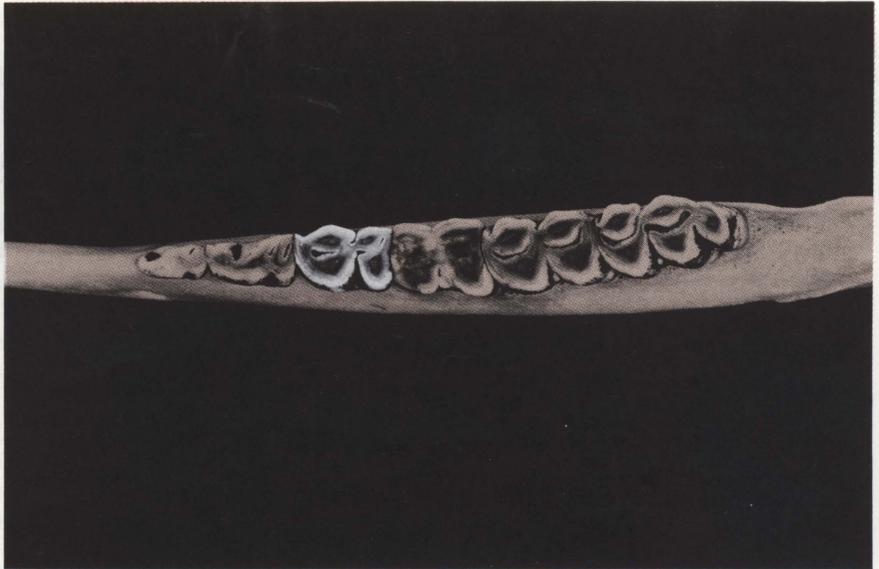
Tooth 4, tooth 5 and tooth 6—dark dentine line is wider than the enamel bordering it.



6½ years

Tooth 4—crown is worn smooth. Tooth 2 and tooth 3—crown is heavily worn. This is first time for heavy wear on permanent premolars.

Tooth 3—infundibulum is a small triangular hole. **Caution**—Heavily worn two-cusped, permanent tooth 3 should not be confused with similar conditions on three-cusped, temporary tooth 3 in 1½-year-old deer.



7½ years

Tooth 4—crown is worn smooth. Tooth 5—crown is almost worn smooth. Tooth 6—lingual crests are gone.



Tooth 3 and tooth 5—infundibulum is almost gone. Tooth 6—infundibulum is a narrow, crescent-shaped line with some depth.



The age of a deer is of interest to both the landowner and the hunter. This interest is more than simple curiosity because many indicators of deer quality and welfare are related to age.

On nearly all deer ranges in Texas, food supply is the most critical element in the habitat. When deer numbers are not in balance with available food, inadequate nutrition causes poor body conditions, reduced reproductive efficiency and undesirable antler characteristics, but the severity of the impact is greatest on growing animals.

Body growth needs take priority over antler growth or reproduction in all age deer. This means that food shortages affect antler size in males and fawn production and lactation in females before body weights decrease significantly.

The massiveness of antlers rather than the number of points generally increases with age but is strongly influenced by nutrition. A well-fed yearling could be an eight-point buck, but a poorly fed 7-year-old could be a four-point. Large antlers at an early age reflect good food conditions.

Fawns have the highest nutritional needs and are more sensitive to nutritional deficiencies than any other age class. Body weight as a measure of growth of fawns generally reflects food availability because fawn weight is influenced by both the doe's lactation and fawn's feeding. However, too few are harvested to be an adequate sample for most ranches.

Of the deer harvested each year, yearlings are the most important indicators of herd nutrition and welfare. Adequate numbers are usually harvested and since they are rapidly growing ani-

mals, inadequacies are magnified in this age class.

In yearlings, the percentage or relative number of spikes taken is an indicator of nutritional conditions if harvesting spikes is not a major hunting objective. A large percentage of spikes indicates a food shortage from year to year although it might be a short term effect of drought conditions. Repetitive high spike numbers indicate long term habitat deficiencies or severe animal to animal competition.

A disproportionate number of yearling males compared to mature bucks (4 years and older) taken during the hunting season indicates a deer herd with heavy buck harvest. For example, records compiled by the Texas Parks and Wildlife Department combining years 1975 to 1981 indicated that the heaviest hunting pressure was the Post Oak Savannah (59 percent yearlings to 5 percent mature bucks) and in the Cross Timbers and Prairies (53 percent yearlings to 7 percent mature). A more moderate pressure was indicated by the 44 percent to 12 percent in the Pineywoods, with the lightest pressure in the Edwards Plateau (21 percent to 23 percent) and South Texas Plains (19 percent yearlings to 35 percent mature bucks).

Similar proportions of yearlings to mature does would have similar implications. Most commonly the harvest records show a high proportion of old-age does, indicating light hunting pressure.

Deer managers should keep accurate records on all deer harvested with their ages to determine the nutritional effects of practices such as brush control, livestock management and levels of deer harvest. Without such records management cannot be evaluated accurately.

*Editor: Shirley E. Bovey, Extension Communications Specialist,
The Texas A&M University System.*

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