Wyoming Game & Fish

TOOTH AGING

at the Wyoming Game and Fish Department Wildlife Forensics and Fish Health Laboratory

WHAT IS TOOTH AGING?

Tooth aging is process of looking at the rings (also known as annuli) within teeth to determine the age of an animal with reasonable accuracy. A lab technician will go through several steps to prepare a tooth for aging.

WHY DO YOU AGE TEETH?

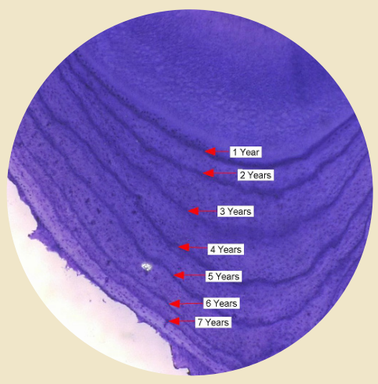
Tooth aging provides important data about the demographics of Wyoming's big game herds for management as well as satisfying the curiosity of hunters who enjoy learning the age of their harvested animal.

CAN YOU AGE MY ANIMAL?

You can get your animal aged for a fee even if you harvest it in another state. Contact the Wyoming Game and Fish Wildlife Forensic and Fish Health Laboratory at 307-766-5616 for additional information.

TOOTH AGING FACTS

Teeth are received mainly from hunters and biologists and analyzed using the cementum annuli aging method. It observes the yearly addition of cementum, which is a calcified substance deposited on the roots of teeth in many mammals.



The layers of cementum produce rings similar to those in trees. A darker stained ring is created during winter when food is scarce. Lightly stained rings are formed during spring and summer when there is less food stress on the animal.

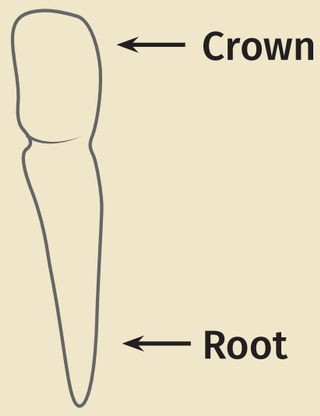
A unique trait in aging black bears is that the approximate age of a sow can be determined each year she gives birth to cubs.

The lab dates approximately 2,000 to 3,000 teeth samples from 11 species each year.

Moose, elk and deer comprise the majority of the teeth sent to the lab for aging.

The lab ages the first incisor for many species, but use the premolar for mountain lion and blackbear and the canine for bobcat.

TOOTH AGING PROCESS

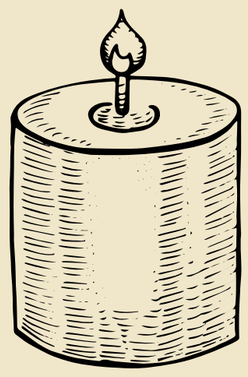


STEP 1

Only the root is used in the tooth-aging process, so the tooth is cleaned and crown is cut off.

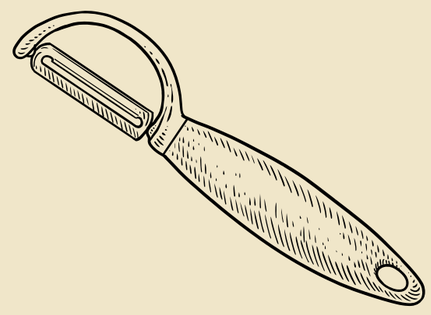
STEP 2

The tooth is softened in a solution of hydrochloric acid to decalsify it before cutting it in half.



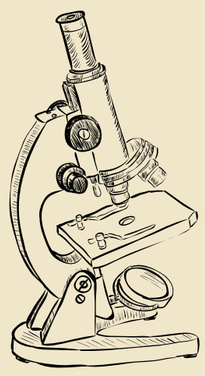
STEP 3

The teeth are then put in a block of parafin (wax) to provide for a flat cutting surface.



STEP 4

The tooth is sectioned, or sliced, into very thin layers and placed on a slide.



STEP 5

The tooth is stained a purple color to highlight the annuli, which are similar to tree rings.

STEP 6

Looking through a microscope connected to a computer, a lab technician counts the annuli to determine the animal's age.