This Tech Note highlights a new photo guide for aging feral swine by looking at their teeth. The guide includes representative photos of age intervals and descriptions to help identify specific teeth as eruption and replacement occurs.

Determining the age structure of a feral swine provides insight into the population's biological fitness and ecological well-being. This knowledge is beneficial for planning control strategies or evaluating the success of removal efforts. It is also important in disease surveillance and population modeling.

Quick Start

Feral swine can be categorized by nine age intervals that are defined by the eruption and/or replacement of specific teeth from birth to three years of age (See table on page 2).

The accompanying photo guide provides more details for aging feral swine, however to get a quick start, follow the directions below.

To protect against infectious diseases, wear appropriate personal protective equipment (i.e., gloves, goggles/glasses, long sleeved-shirt and pants) when handling feral swine.

1) With the animal anesthetized or euthanized, open the mouth and look for the canines. A permanent canine is unmistakable. It is the most notable tooth since it is longer and larger that the other teeth.

2) If the canine is permanent, work your way forward through the photo guide starting at Age Interval 4 (30 to 51 weeks). If the canine is deciduous, check for the presence of the erupting or permanent I3.

If neither the permanent canine nor the I3 teeth are present, work your way backwards through the photo guide starting at Age Interval 3 (20 to 30 weeks).

Helpful Tips

- Most age intervals have multiple defining characteristics, however, only one needs to be present to confirm the age interval.
- Read the "Special Notes" section of each age interval as they describe important details to help in identifying age intervals.
- Check the "Additional Information" section on the back of the photo guide for illustrations of permanent and deciduous teeth.
Other Aging Techniques

Other aging techniques for feral swine and wild pigs are generally limited to laboratory analysis and are not suitable for use in the field. Cementum analysis has been explored extensively, but environmental factors, such as diet and climatic differences, influence the presence and regular accumulation of cementum rings. Other techniques include evaluating the spina ristae ficialis relative to the upper M3, measuring pulp cavity ratios, and morphological measurements. Several techniques to age older animals by visually observing molar wear or measuring molar dentin have been developed and used with some success.


Additional Information

For more information on aging feral swine, please contact:

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National Wildlife Research Center
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Fort Collins, CO 80521
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Disclaimer

It is well documented that tooth eruption and replacement in domestic pigs occurs earlier than wild boar. Feral swine have been in the continental U.S. since the 1500s and introductions of Eurasian wild boar began in the late 1800s. The origin of ancestry and unknown degree of hybridization between domestic and European lineages may result in differences in the timing of tooth eruption and replacement in some feral swine encountered in the U.S.
The presence of M1s often define this age interval. This will dissipate sometime between 16-24 weeks of age as individuals begin to take on adult coloration (Mayer 1991).

European lineages may result in differences in the timing of tooth eruption and replacement in some feral swine encountered in the U.S. Clarke et al. (1992), Boitani and Mattei (1992), and Iff (1978). It is the authors' conclusion that Age Interval 8 captures most feral swine with fully erupted, complete dentition. However, it is well documented that domestic pigs erupt and replace teeth earlier than wild boar. The origin of ancestry and unknown degree of hybridization between domestic and European lineages may result in differences in the timing of tooth eruption and replacement in some feral swine encountered in the U.S.

Citations
5: 12-18 months
Defining Characteristics:
- M2s intact or erupting AND/OR
  I1s intact or erupting AND/OR
  P2s, P3s, P4s intact or erupting
Special Notes:
The i2 is still present. The M2s (not present as deciduous teeth) and I1s erupt earlier in this age interval than P2s, P3s, and P4s. The P4s have 2 cusps rather than 3 cusps like the p4. The I1s can be tricky to identify. They are generally a little bigger, lighter in color when new, and have more defined tips than the worn I1s.

6: 18-26 months
Defining Characteristics:
- I2 intact or erupting AND/OR
  Lower M3 intact or erupting
Special Notes:
The lower I2 will generally erupt (18-22 months) before the upper I2 (21-26 months). The lower M3 will erupt between 22-26 months. If a lower M3 is present, check for the upper M3. If the upper M3 is erupting or intact the animal should be assigned to the next age interval (7: 26-36 months). The M3s (not present as deciduous teeth) have 2 cusp pairs and a final large single cusp.

7: 26-36 months
Defining Characteristics:
- Upper M3 erupting
Special Notes:
The upper M3 erupts on average 4 months after the lower M3. If the upper M3 is intact, the animal should be assigned to Age Interval 8.

8: 36-~48 months
Dentition complete with intact M3s. Some wear may exist on the lower M3s. Look for fully exposed single cusp on the rear of upper M3. The lower M3 has 2 cusp pairs and a single rear cusp.

9: Older Adults ~48+
Defining Characteristics:
- Visible wear on M3s
- All other teeth show visible wear and some teeth may be missing
Special Notes:
Pay attention to plaque and tarter build up, discoloration, and decay as evidence of older teeth. Dentin will be present on worn surfaces of teeth and some tooth cusps will be worn down. Observe the level of tooth wear decreasing towards the gum line.

Additional Information
A detailed method for estimating feral swine age over 48 months using tooth wear is available in Mayer (2002) (See “Citations” on front page).
More detailed illustrations of tooth eruption and replacement on the lower mandible is available in Iff (1983) (See “Citations” on front page).