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The objectives of this study are:

- to compare the rhinitis lesions scored performed on snout sections with a saw and those made on computer tomography images (CT)
- to define the optimal anatomical area for lesions scored.

Materials and methods

203 heads were collected at the slaughterhouse:

- Cross sectioned images were taken every millimeter by CT.
- Snouts were cut at the first upper premolars with a hand-held saw.
- Sections of snouts and CT images obtained at the 1st upper premolars were scored by an experienced operator, according to the IFIP reference method (scored 0 to 20).
- 50 snouts were scored on three tomography images (CT) taken at the 1st upper premolars, at one centimeter in front of and one centimeter behind the 1st premolar, by 5 experienced operators.

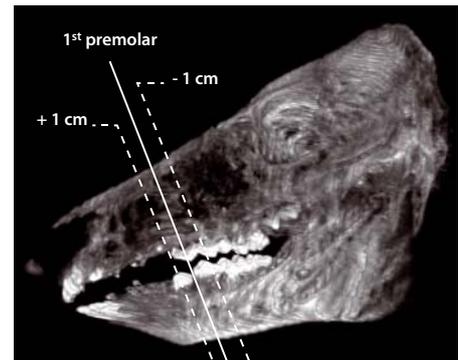


Figure 1: Images of the same snout at the 1st upper premolars (PM), at one centimeter in front of (+ 1 cm) and one centimeter behind (- 1 cm) the 1st premolar



Results

Comparison of the rhinitis lesions scored on snouts sectioned with a saw and on tomographic images (CT)

- The scores obtained were similar.
- The atypical morphologies of the turbinate structure (turbinate crushed, partially joint or with a winding inverted concave structure instead of convex), observed after sectioning some snouts, were already present on the CT images.

Influence of the anatomical area of the score

- At 1 cm in front of the 1st upper premolars: the septum was less deviated than at the 1st premolars and the atrophy scrolls of the turbinates were largest. The total score was significantly higher.
- At 1 cm behind the 1st upper premolars, the scores of septum and turbinates were the same.

Table - Severity of snout lesions (%) for the 3 areas

Areas scoring	Snouts without lesions	Small lesions	Extensive lesions
1 st upper premolar	13% ^a	42% ^a	45% ^a
+1 cm	11% ^a	35% ^b	54% ^b
- 1 cm	12% ^a	42% ^a	46% ^a



Conclusion

- The saw section did not change the nasal septum and the turbinate structure, and did not influence the score.
- At one centimeter in front of the 1st upper premolars, the score was significantly higher. However one centimeter behind the 1st upper premolars, the score was the same.