

Rabbit Teeth Issue Survey

Comparing Incidence of Malocclusion in Rabbit Breeds and Netherland Dwarfs and Holland Lops

2009 Corinne Fayo Rabbit Education Society

A survey was conducted online for rabbit breeders to find out the incidence of malocclusion in the offspring they produce. Twenty-eight (28) breeders responded representing 4,426 offspring produced, out of which 56 rabbits had malocclusion. The incidence of malocclusion for all breeds was 1.3%. Among Netherland Dwarf breeders the incidence was found to be 1.4%. The incidence of malocclusion among rabbit breeds excluding Netherland Dwarfs was 1.2%. The incidence of malocclusion among Holland Lops was 1.7%. Incisor malocclusion occurring at an early age is most likely a genetic or developmental issue (Supreme Pet Foods). Respondents were also asked about their experience with molar spurs, 2 rabbits had molar spurs out of 1,256 adults. The results of this survey do not support claims that rabbits have a high incidence of teeth problems among breeders nor that there is a high incidence in Netherland Dwarfs or Holland Lops compared to other rabbit breeds.

Total number of breeders responding: 28

Total Offspring: 4,426 Total offspring with malocclusion: 56 (1.26%)

Malocclusion Incidence Rate in Offspring Compared to Breed:

Breed	Number	Percentage
All Breeds	56	1.3%
Breeds excluding ND & HL	35	1.2%
Breeds excluding NDs	42	1.2%
Netherland Dwarfs	14	1.4%
All Lops (includes HLs)	11	1.5%
Holland Lops	7	1.7%
Mini-Rex	21	3.6%

Total Adults: 1,256

Total number of adults with dental issues: 14 (1.11%)

Dental Issues among Adults	Number	Percent
Malocclusion	6	.47%
Wire Pulling	3	.23%
Butting	2	.15%
Molar Spur	2	.15%

Respondents were asked what they did or would do with offspring that had malocclusion. Twenty-two (22) responded to the question. Eighty-six percent (86%) selected to either put the affected rabbit down or use it for meat. One respondent said they kept the rabbit as a pet, 1 said sold as pet, another selected sold as pet but specified that they knew the household would not use it for breeding. Some in the "rescue" community as well as pet owners opposed to breeders feel a rabbit with malocclusion should go as a pet instead of being put down. There are very serious ethical as well as legal issues attached with that method. Legally a breeder could be violating state or local laws by selling or giving away a rabbit with a tooth issue. On the ethical side many breeders feel if they sold or gave away a rabbit with a dental issue they would be providing a pet owner with an animal that would require extra care and expense and it would not be ethical to do so. Also there would be no guarantee that the owner would provide the extra care needed or pay the expense to have the teeth trimmed thereby allowing an animal to suffer. For many breeders the ethical, legal, and humane decision is to put the animal down. A rabbit with malocclusion could be used as food thereby allowing the animal's life to have served a purpose.

The survey also asked about diet, if it was pellet based, was hay fed and how frequently. Seventy-five percent (75%) fed hay on some regular basis. The regularity varied from unlimited to once per month. 36% fed hay 1-2 times per week, 20% fed an unlimited amount, 16% each fed 3-5 times per week or once per month. All responded that the diet was basically a commercially produced pellet. Brands varied and included Purina, Manna Pro, Pfau, Heinold, Blue Seal, Poulin, Nutrena, PenPals, Kent, etc. Some diets were supplemented with hay, grains, and vegetables. There didn't appear to be any patterns regarding diet and incidence of malocclusion or dental disease. The breeders with adults who had dental issues, all but one fed hay. In the cases of molar spurs the respondent said they fed hay in the amount of a large handful twice per week, the other fed unlimited grass hay. The respondents who had rabbits with wire chewing/pulling dental issues were feeding hay 2-5 times per week. The one breeder who did not feed hay had 2 rabbits with butting teeth.

Some breeders did not have records on the number of offspring produced and the number with dental issues. They did however respond with their experiences and thoughts on the subject. One breeder said they have raised 15 breeds and have been breeding for over 31 years. They feed hay every other day and had a problem with one line of non-pedigreed Mini-Rex. Another breeder said the worst breed they had was Holland Lops, they also had Mini-Rex and felt the Holland Lops had a higher incidence than the Mini-Rex.

Several Netherland Dwarf breeders who didn't keep records also responded. One said in the last three years they only had a couple out of "hundreds" of offspring. Another ND breeder said while they don't keep records malocclusion occurrence is few and far between. Yet another ND breeder said they thought in the last 3 years there have only been 2 cases in their herd. The last respondent breeds both Netherland Dwarfs and Holland Lops as well as other breeds. She said she has had only a few issues and when she had a malocclusion occurrence it seemed to affect different breeds but all at the same time. She used an example of 2% of all kits born in a 2 week period. She felt it was feed related because some pairs had been used before but didn't produce any malocclusion, plus it seemed odd having occurrences all at one time. As she further described her experiences it seemed to be a butting teeth problem that is correctable as she said she trimmed teeth and the alignment corrected.

She also felt that some cases could be related to breeding together lines that varied on rate of development. I also feel that could have something to do with occurrence of malocclusion based on a past experience with a buck that produced offspring who developed by 6 months of age. He was bred into a line that developed much slower-a rabbit would be fully developed by 1 ½ years of age, at 6 months they had not fully developed their heads and were not competitive in the senior show classes. This buck produced 21 offspring and only 2 had malocclusion (lower jaw elongated so that no amount of trimming could correct it). The two does used that produced 2 cases of malocclusion were unrelated to each other or the buck. Neither doe produced any other case of malocclusion when bred to other bucks including bucks who were related. A son of the buck was kept and became a foundation animal for the bloodline. Malocclusion has not reoccurred in that bloodline and that covers a 9 year period.

The only other information I have been able to obtain related to malocclusion and breeders is from a Dwarf Digest article (Barnhart). He surveyed a small sample of Netherland Dwarf breeders (10). The incidence of malocclusion was 2%-5%. The article dealt with ethics of clipping teeth. It seems the breeders interviewed probably dealt more with butting teeth aka simple malocclusion than what I label true malocclusion. I have personally seen Netherland Dwarfs that have butting teeth and what I refer to as true malocclusion. What seems to differentiate the two conditions is in true malocclusion the lower jaw is elongated. The elongation prevents any correction by trimming, cutting, or filing. The bottom teeth will never be able to be corrected. In butting teeth the lower jaw is not elongated. If clipping or filing is needed to correct bottom teeth growing out in most cases the teeth alignment corrects. Many times in the butting teeth cases no intervention is needed. This condition can be seen as early as three weeks of age. It seems to vary in bloodlines but many times the butting will correct by 8 weeks of age. In some lines it takes until the rabbit is 4-5 months of age to correct. Again most cases do not require trimming to allow the rabbit to eat. In rare cases the teeth will not correct by 6 months of age but will continue to butt and wear down properly so the animal does not have problems eating. There is also some evidence that there may be lines in which some individuals may have normal teeth between 3 weeks to 6 months and then after 6 months there is a period of butting which corrects again usually on its own. There does not appear to be a connection with the desired rounded show heads and butting teeth. Using individuals who had butted teeth does not seem to increase the number of offspring with butting teeth (Barnhart and author's experience).

In scientific literature it is said that there is a high incidence of malocclusion in dwarf breeds. According to Mullan 2006 in a survey of 102 pet rabbits the most common problem was “dental disease”, affecting 30 rabbits and only 6 of the owners were aware there were dental issues. In that survey the most common breed was the “dwarf lop” numbering 38. I only have a copy of the abstract so I do not know how many of those 38 had dental issues. But 30 out of 102 pet rabbits is a 29% incidence rate. The question is why is it so much higher than the incidence rate among breeders? The abstract does say the dental disease was “significantly associated with feeding a rabbit mix”. This was a UK survey and apparently in the UK “rabbit mixes” are pellets that contain treat type food mixed with pellets. Rabbit feeding habits, especially the tendency to pick out parts of a mix and not eat all the pellets, has been associated with creating a dietary calcium deficiency which creates dental problems (Harcourt-Brown).

In the Harcourt-Brown book Textbook of Rabbit Medicine she cites Turner 1997 saying dwarf male lops appear most susceptible to genetic dental disease. Turner said in his veterinary practice 30% of dwarf breeds are presented for treatment and 68% of dwarf breeds for dental treatment. Another “study” is cited (Abbott 1997) as showing dwarf breeds have a higher incidence of dental issues. However the Abbott study was conducted at a rabbit sanctuary- Cottontails Rabbit Sanctuary. Using a population of unwanted rabbits may well skew results.

The RES 2009 survey appears to be the only one that has surveyed rabbit breeders for the incidence they see both in offspring and adults in their herds. It is popular in the pet community to say there is a higher incidence because breeders are breeding for a rounded head in the dwarf breeds. Both the Netherland Dwarf and Holland Lop standard call for a bold, round head however the survey results do not support the round head as cause theory. Personally I have witnessed no teeth issues in Netherland Dwarfs with excellent show type heads, I have seen butting teeth issues in NDs with long narrow heads. The ND breeders who responded to the survey are show breeders and would be breeding for the desirable rounded head. It would also make sense that if breeding for this trait produced a large number of offspring with malocclusion the show breeder would be selecting away from the teeth issue. A rabbit with malocclusion or butting teeth is a show disqualification. What needs to be questioned is why such a high incidence among pet rabbits? One may also question if the incidence in the pet studies is really indicative of the general population?

In a 2001 RES survey for both pet owners and breeders 5 (13%) of the 40 pet owners who responded reported malocclusion and 3% reported molar spurs. 48% owned mixed breed rabbits, 20% Netherland Dwarfs, and 18% Holland Lops. The survey did not ask specifically which breeds had malocclusion. Looking at the 5 pet owners who reported malocclusion, the source where they obtained the rabbits included: rescue (3), pet store (3), stray (2), gift (1). Four (4) said the rabbits they obtained were mixed breeds, 2 listed Holland Lops, 1 listed himalayan and Chinchilla. Only one had a single rabbit.

Information on where pet owners obtain rabbits shows the pet store is the most popular source (RES 2009). Show rabbit breeders usually do not sell to pet stores (RES 2000) and fewer pet owners obtain a rabbit from a breeder than a pet store (RES 2009). Could source and purpose the rabbit was bred for have any bearing on incidence of dental problems? A rabbit breeder breeding to supply pet markets has a very different goal from a breeder breeding for show therefore there will be differences on the number produced as well as the amount of time the babies stay in the rabbitry and selection of replacement stock and breeding pairs.

In conclusion the 2009 rabbit breeders survey does not support claims that dwarf breeds have a significantly higher incidence of dental problems than other breeds of rabbits. The incidence of malocclusion among show rabbit breeders appears to be rather low and those rabbits are not being released into the pet community. There does not appear to be a high incidence of dental disease in rabbits produced and owned by rabbit breeders.

References:

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