



ORAVET®
DENTAL HYGIENE CHEWS
Serious Oral Care Made Simple

NEW

ORAVET®
DENTAL HYGIENE CHEWS
Serious Oral Care Made Simple

**Combat plaque, calculus, and halitosis
with the science of prevention**



*See product label for full details.

References: **1.** Vassilakos N, Arnebrant T, Rundergren J. *In vitro* interactions of delmopinol hydrochloride with salivary films adsorbed at solid/liquid interfaces. *Caries Res.* 1993;27:176-182. **2.** Steinberg D, Beeman D, Bowen W. The effect of delmopinol on glucosyltransferase adsorbed on to saliva-coated hydroxyapatite. *Archs oral Biol.* 1992;37:33-38. **3.** Rundergren J and Arnebrant T. Effect of delmopinol on the viscosity of extracellular glucans produced by *Streptococcus mutans*. *Caries Res.* 1992;26(4):281-285. **4.** Rawlings J, Culham N. Halitosis in dogs and the effect of periodontal therapy. *Journal of Nutrition.* 128:2715S-2716S, 1998. **5.** Mehta P. et al. A surfactant - a new line of defense against plaque. *IOSR-JDMS.* 2014;13(8)52-54. **6.** FDA registration Decapinol Oral Rinse. **7.** Merial Data on File MERDENC00112. **8.** American Veterinary Dental College website. Periodontal disease. <http://www.avdc.org/periodontaldisease.html>. Accessed 13th June 2016. **9.** Merial Data on File MERDENC00515.



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OraVet® Dental Hygiene Chews – Backed by Science You Can Believe In

A New Way to Combat Plaque, Calculus, and Halitosis at the source - Bacterial Biofilms

Each OraVet Dental Chew contains delmopinol hydrochloride.

- **Delmopinol has been extensively tested in the US and Europe for human use.**
 - Used for years in a human oral rinse
 - Licensed exclusively to MERIAL for veterinary use
- **Prevents bacterial attachment:** Demonstrated in *in-vitro* laboratory studies^{1,2}
 - Delmopinol creates a barrier that prevents bacterial attachment, the development of plaque biofilms, and the production of the volatile sulphur compounds of halitosis^{3,4}

The Unique Dual-Action Mechanism Is Simple but Remarkably Effective

- **Disrupts the plaque matrix:** As the dog chews, delmopinol is rapidly released into the mouth to coat the teeth, tongue and gingiva creating a protective barrier. This reduces the viscosity of bacterial glucans and the surface tension between the plaque and tooth enamel, preventing bacteria from attaching to the teeth and disrupting the formation of the plaque matrix¹⁻³
- **Reduces existing plaque through an effective mechanical action:** The scrubbing action of the chew works in parallel with delmopinol to effectively reduce plaque and calculus build up
- The dual-action of OraVet Dental Chews results in significant reduction in plaque, calculus, and halitosis with daily use



#Delmopinol coats the inside of the dog's mouth

DELMOPINOL PROTECTS AGAINST ORAL BACTERIA AT EVERY STEP

How Plaque and Halitosis Develop



Salivary pellicle forms and bacteria attach to the pellicle



Bacteria colonise and plaque biofilms form



Plaque mineralises forming calculus, halitosis develops



Plaque accumulation continues, halitosis intensifies

Delmopinol Interrupts Plaque and Halitosis Development¹⁻⁴

Barrier formed disrupts salivary pellicle

Reduced adherence of primary plaque-forming bacteria

Disrupts plaque matrix, prevents successor bacteria from adhering to teeth

Reduced plaque cohesion facilitates mechanical removal^{3,5}



Delmopinol:

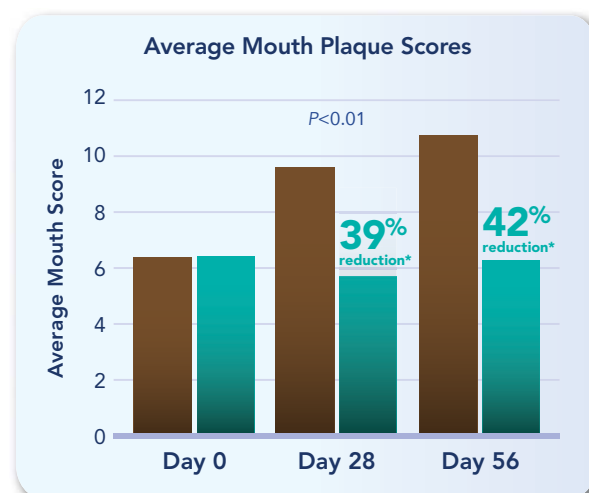
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DOZEN

Rigorous human⁶ and animal clinical trials

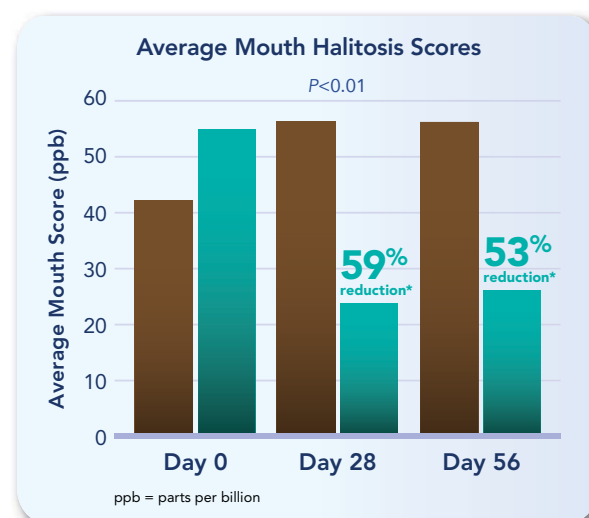
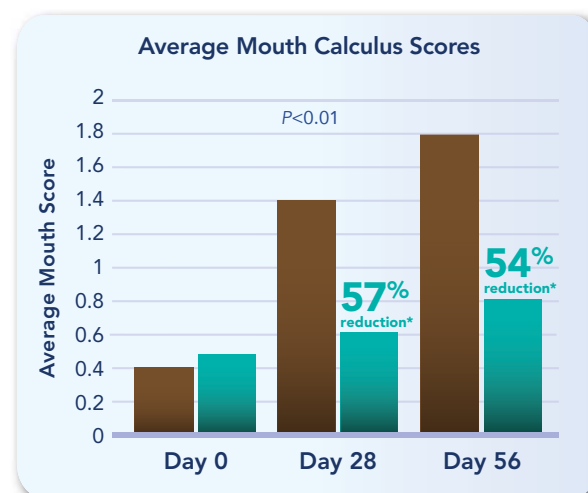
✓ Demonstrating its proven technology

Proven Reduction in Key Oral Health Indicators

In a Clean Mouth Study (cleaning after baseline scores taken)



Scoring for plaque reduction based on the combined scores of gingival and occlusal halves



Study Design: Study dogs underwent a dental scaling and polishing 7 days prior to the start of the study. On study Day 0, halitosis, plaque, and calculus were evaluated, and dogs were stratified by their baseline plaque scores into groups to receive: 1) Dry diet alone, 2) Dry diet and a delmopinol-coated chew. Each dog underwent another dental cleaning and polishing to ensure a clean mouth at the start of the test phase (56-day study period). Outcome measures (eg, plaque and calculus formation and halitosis) were evaluated at Days 28 and 56.⁷

■ Dry Diet Alone
■ Dry Diet + OraVet Dental Hygiene Chews[†]



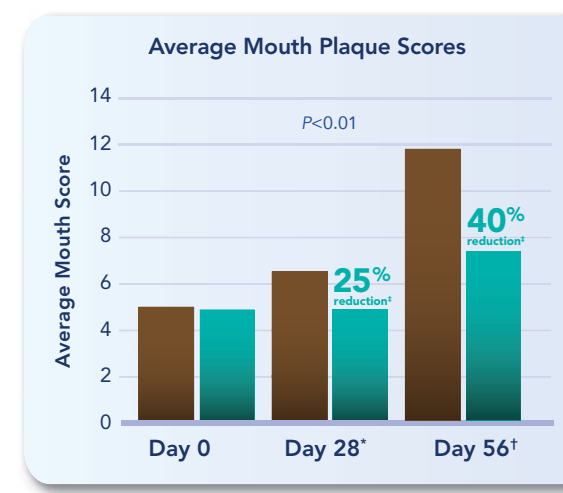
Halitosis is one of the few signs of poor oral hygiene owners are likely to recognize in their dogs⁸

* Reductions in plaque, calculus, and halitosis for OraVet-treated dogs were compared with dogs receiving dry diet alone (control).

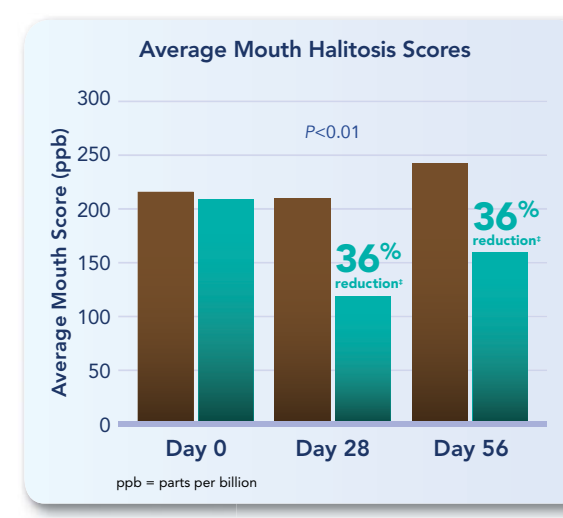
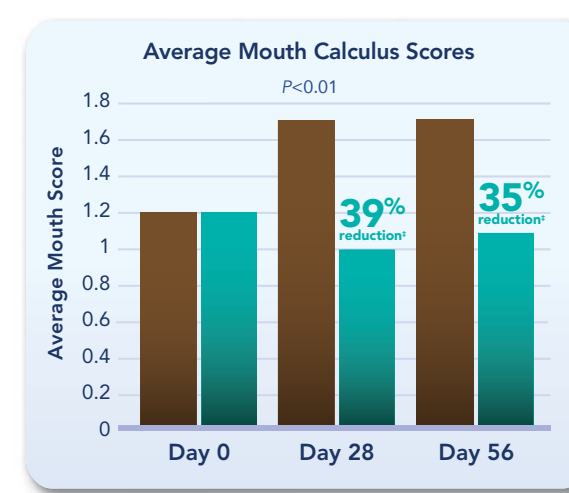
[†] Study performed with a prototype dental hygiene chew.

...Even in Mouths That Start "Dirty"

In a Dirty Mouth Study (no cleaning for 28 days prior to test phase)



Scoring for plaque reduction based on the combined scores of gingival and occlusal halves



Study Design: Study dogs underwent dental scaling and polishing (Day -28) prior to initiation of a pre-test phase, during which the dogs were fed a dry diet alone. On study Day 0, halitosis, plaque, and calculus were evaluated, and dogs were stratified by their baseline plaque scores into groups to receive: 1) Dry diet alone, or 2) Delmopinol-coated chew approximately 2 hours after the dry diet was removed. Teeth of the study dogs were **NOT** cleaned on Day 0 to ensure a dirty mouth at the start of the test phase (56-day study). Outcome measures (eg, plaque and calculus formation and halitosis) were evaluated at Days 28 and 56.⁹

■ Dry Diet Alone
■ Dry Diet + OraVet Dental Hygiene Chews

Halitosis was evaluated using a Halimeter®, a device that quantitatively measures the presence of volatile sulphur compounds - the principal sources of halitosis. Readings were obtained on each side of the mouth, and total mouth malodour scoring was determined by the average of the bilateral mouth scores.

[†] Reductions in plaque, calculus, and halitosis for OraVet-treated dogs were compared with dogs receiving dry diet alone (control).



OraVet Dental Hygiene Chews Are Easy to Give

- **Highly palatable:** In a laboratory study, the average palatability score of OraVet Dental Hygiene Chews indicated that in most instances dogs accepted the chews on first offer⁷

OraVet Dental Hygiene Chews for daily use

- In a 56-day study, compared with dogs given a dry diet alone, dogs given OraVet Dental Hygiene Chews once daily demonstrated:
 - No difference in weekly food consumption or changes in body weight⁷



Available in 4 Low-Calorie Sizes

- Contains ingredients derived from corn, wheat, and soy*

	Size	Dog Weight	Calories per Chew
	Extra Small	For dogs up to 4.5kg	26.8
	Small	4.5-11kg	47.7
	Medium	11-23kg	80.5
	Large	For dogs over 23kg	128.3

OraVet® Dental Hygiene Chews Combat Plaque, Calculus, and Halitosis at the Source

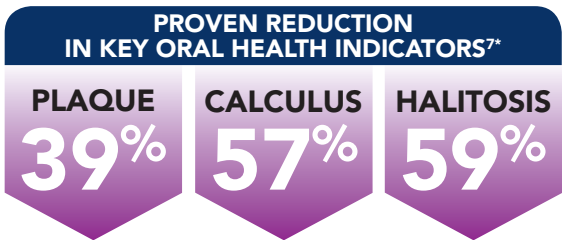
- Delmopinol, used for years in a human oral rinse, now available for the first time in a canine oral hygiene chew

Delmopinol creates a protective barrier that:

- Prevents bacterial attachment^{1,2}
- Inhibits plaque biofilm attachment and the production of the volatile sulphur compounds of halitosis^{3,4}

OraVet Dental Hygiene Chews with Delmopinol:

- Significantly reduces plaque and calculus build up when given daily⁷
- Exceptional halitosis control⁷
- Highly palatable⁷



For more information, contact your MERIAL Account Manager.

For dogs 6 months of age or older.
Do not administer OraVet Dental Hygiene Chews to cats.

*Compared with dry diet alone after 28 days

