In the control group, concentrations were below the limit of quantification for dinotefuran (< 1250 ng/g) and pyriproxyfen (<400 ng/g) from days -1 to 30, with the exception of some transient insignificant detectable amounts that were attributed to contamination. In the DP treated group, dinotefuran and pyriproxyfen were rapidly detected in the different body locations in 24h post-administration. Maximal concentrations

were observed 24h after administration near the neck but after only 14 days in the middle of the back. High concentrations of both active ingredients remained in the hairs for 30 days post-administration. Such initial and residual concentrations are supportive of the performances of the product against insects. Additionally the treated cats tolerated the product very well.

Rapid killing of *Rhipicephalus sanguineus* ticks on dogs treated topically with a combination dinotefuran-permethrin-pyriproxyfen

Jeffrey Blair¹, Marie Varloud¹, Gautier Barthelemy¹, Julian Liebenberg², Josephus Fourie²

¹ Ceva Santé Animale, Libourne, France

² ClinVet International, Bloemfontein, South Africa

INTRODUCTION

Rhipicephalus sanguineus is a common tick parasite in dogs and is a known vector of *Ehrlichia canis* and *Babesia canis*. Prevention of infestation with these ticks is a very important part of reducing the chance of transmission of these diseases. This study was designed to assess the efficacy of a topical administration of a combination of dinotefuran-permethrin-pyriproxyfen (Vectra®3D, DPP) at 8 and 48 hours after infestation in comparison with a negative (untreated) control group.

METHODS

Sixteen purpose-bred laboratory dogs were used in this study, with eight untreated dogs acting as controls and eight dogs treated topically with DPP in accordance with the label. Dogs were infested with 50 unfed adult *R. sanguineus* ticks with a balanced sex ratio on days 7, 14, 21, and 28 after treatment. Ticks were counted *in situ* at 8 hours ($\pm$ 30 minutes) after each infestation by direct observation following parting of the hair coat and palpation. Ticks were then counted and removed at 48 hours ($\pm$ 2 hours) after each infestation. The ticks at each

count were categorized as live or dead and by attachment status (free, attached but not engorged, or attached and engorged). Efficacy was calculated based on both geometric and arithmetic means of the number of live ticks (regardless of attachment status) plus the number of dead engorged ticks.

RESULTS

The mean counts in the control dogs were adequate at all counting times. The DPP combination rapidly killed or prevented attachment of ticks with excellent efficacy at both 8 and 48 hours at all time points up to 28 days. This topical product can be used to rapidly expel or kill new infestations of ticks which are vectors of important canine diseases.

	8 hour counts on Day			
	7	14	21	28
Control	34.3	27.6	35.3	33.9
DPP	3.8	2.9	2.9	0.9
Geometric Mean Efficacy	92%	92%	95%	98%
Arithmetic Mean Efficacy	89%	90%	92%	97%

	48 hour counts on Day			
	9	16	23	30
Control	26.4	30.8	31.9	30.8
DPP	2.9	0.4	0.5	0.0
Geometric Mean Efficacy	99%	100%	98%	100%
Arithmetic Mean Efficacy	89%	99%	98%	100%

In vitro canine IgE cross-reactivity among grasses, weeds and trees pollens

Ana Mas, Javier Alvarez

Alergovet SL, Madrid, Spain

INTRODUCTION

A high proportion of dogs diagnosed with Canine Atopic Dermatitis (CAD) shows positive specific-IgE simultaneously against phylogenetically distant pollens. The aim of this study was to determine IgE cross-reactivity among grasses, weeds and trees applying *in vitro* techniques.

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