



**GUIDELINES FOR ACCEPTABLE CLAIMS BASED ON
CURRENTLY APPROVED ACTIVE CONSTITUENTS FOR
ECTOPARASITICIDES USED ON CATS, DOGS OR
ORNAMENTAL CAGED BIRDS**

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BACKGROUND

During mid-late 1993 a comprehensive review of more than 200 ectoparasiticide labels was undertaken in order to address concerns regarding the lack of uniformity in the approved label claims for a range of ectoparasiticides used on companion animals (including ornamental cage birds). These anomalies had been noted whilst Product Managers were reviewing Applications for Clearance sent to the *National Registration Authority for Agricultural and Veterinary Chemicals (NRA)*.

It was concluded that some detailed guidelines were required to assist industry in the preparation of image product applications/labels and so avoid having to unnecessarily repeat costly safety and efficacy studies in the target species with consequent delays in the issue of clearance.

It should be noted that, although there is a degree of repetition between these guidelines and the *Code of Practice for the Labelling of Veterinary Chemical Products* and *Guidelines to the Evaluation of Companion Animal Ectoparasiticides* this document is not intended to replace either of those documents. Applicants are directed to those two separate documents to ensure that all regulatory requirements have been addressed.

STRUCTURE OF THE GUIDELINES

The first part of these guidelines sets out a number of discussion points relating to general NRA policy issues that either currently apply, or are proposed to apply, to ectoparasiticides registered for use on cats, dogs or ornamental cage birds.

This is followed by specific discussion points relating to specific product types/dose forms and a tabulated summary of "maximum acceptable efficacy claims" for each active constituent, dose form and use rate. These tables allow ready comparison of acceptable efficacy claims for any product and the registered label use rate of each active constituent.

The guidelines conclude with two appendices:

- Appendix A is a list of the scientific and common names of those external parasites controlled by the ectoparasiticides included in the review.
- Appendix B lists the chemicals included in this review.

It is proposed that where an applicant is prepared to limit the label efficacy claims for a new image product to those proposals that no additional efficacy data will be required to be submitted. Conversely where these proposals are exceeded additional efficacy data in support of those additional claims will be required. Target animal safety data may also be required.

It is also proposed that where the claims within this document are considered to be understated, data (or argument) in support of more substantial claims should be submitted for review.

DISCUSSION POINTS RELATING TO GENERAL ISSUES

1. A warning statement regarding the restraint of use of products on kittens and puppies less than three months of age is required on all products except those containing pyrethrins or permethrin. The deletion of this requirement relating to other products will require support data or argument.
2. A warning statement regarding possible adverse reactions (dribbling and unsteadiness of gait) arising from the use of spray products containing pyrethrins or permethrin is required on products recommended for use on cats of all ages.
3. The frequency of treatments to achieve control must be specified.
4. The duration of control provided by a single treatment must be specified particularly for tick control products.
5. Current restrictions on the use of the word "natural" in the product name and elsewhere on the label will remain.
6. The active constituent of products containing pyrethrum extract (25 or 50% pyrethrins) must be expressed as pyrethrins on the label.
7. All pyrethrins based products should be synergised with either PBO and/or NOBD.
8. Adequate First Aid and Safety Directions (refer SUSDP 9) and Disposal Instructions must be included on all labels.
9. For flea control products the current definitions of "kills" (100% control at day 1), "controls" (95-100% control at day 3) and "aids in control" (75-95% control at day 3) will remain.
10. An "environment/zone control" statement must be included on flea control products.
11. In paralysis tick areas the recommendation for "daily searching for and removal of any ticks found" will remain.
12. For products claiming efficacy against *Ixodes holocyclus* ticks (only) it must be stated that "paralysis tick does not occur in Western Australia"
13. Where products claim only brown dog tick control the claim must indicate that only the adult stage is controlled and carry the words "does not control paralysis tick-*Ixodes holocyclus*" on the front panel of the label. Claims for larval tick control will require supporting data.
14. Repellency claims will not be permitted for ticks, lice or fleas without supporting data.

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15. "Repels flies" will be approved where an effective repellent (such as di-N-propyl isocinchomeronate) is included in the formulation or where data is provided in support of the claim.
16. All diazinon based liquid products are required to carry the warnings against the introduction of water into the container and against the use of the container cap as a measuring device.
17. Suitable warnings must be given where multiple exposures from same or similar chemicals may occur (eg OP compounds from collars and washes) and cause cumulative toxicity.
18. Where active constituents are of single/mixed isomers (eg methoprene, permethrin, cypermethrin) the specific isomer or isomeric ratio must be stated on the label in the active constituent statement.
19. The contents of aerosol cans must be expressed as xx g NET and the active constituents expressed in mg/kg quantities.
20. The possible sensitivity of chemicals (eg pyrethrins) to sunlight must be addressed particularly in relation to the useful life of collars.
21. The availability of "new technology" that may enhance the efficacy or duration of control will be taken into account when reviewing future submissions. Any enhanced claims must be supported by new data.
22. The matter of emerging insecticidal resistance may require substantial down grading of claims (eg malidison for flea control).

INSECTICIDAL COLLARS

A total of 64 products (n=64) with ten principal active constituents were identified.

With three exceptions all products declared only one chemical active. In the other three products various herbal oils (Citronella, Eucalyptus and Pennyroyal oil) were used in combination with either amitraz (n=2) or pyrethrins (n=1).

It is recognised that both the amount of active constituent as well as the nature of the collar matrix will affect efficacy and the duration of insecticidal activity. It must be noted therefore that the duration of effect may vary substantially between a number of products containing the same, or similar, amounts of any one chemical ingredient. No attempt was made during this review to determine if any efficacy data was provided in support of those claims or whether the now disparate claims could be attributed to "label drift" having occurred over several years.

DISCUSSION POINTS RELATING TO INSECTICIDAL COLLARS

1. Collars might be expected to provide a good level of control of fleas and perhaps lice on both cats and dogs. Lice control data must be provided to allow any claims.
2. Dependant upon the chemical active involved, collars are less likely to provide meaningful control of ticks or mange than washes and/or sprays. Any claims for tick control from the use of collars will require supporting data.
3. It would appear that only amitraz collars have valid claims for three tick species where months residual control is claimed.
4. Similarly only chlorpyrifos, phosmet, permethrin and propoxur appear to have valid adult brown dog ticks claims for periods ranging from 4-7 months. Where control of brown dog ticks is claimed the adult stage and duration of control must be specified.
5. Any tick control claim must be species and life stage specific and, where necessary, must include the required disclaimers for *Ixodes holocyclus*.
6. The duration of control for each target pest on each target animal must be supported by data. It cannot be assumed, for example, that the duration of control on cats and dogs will be identical as grooming activity of cats may lead to a more rapid loss of activity. Similarly the duration of control for different parasite pests may not necessarily be identical.
7. The role of the collar matrix in regulating the release of the active constituent must be recognised in the "imaging" of collars. This will affect the duration of control.
8. Claims for *water resistant collars* must be supported by data.
9. Collars containing (S) methoprene (insect growth regulant) have now been approved with claims for 6 months flea control in dogs and cats following initial use of a knockdown insecticide.

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TABLE 1 PROPOSED MAXIMUM EFFICACY CLAIMS FOR COLLARS

CHEMICAL ACTIVE APPLICATION RATE	n	TARGET HOST	TICKS The species of ticks and the duration of control must be specified.	FLEAS The duration of control or the frequency of treatment must be specified.	LICE The duration of control or the frequency of treatment must be specified.	MITES AND FLIES The duration of control or the frequency of treatment must be specified.
AMITRAZ 90 g/kg	2	Dogs	Adult <i>Rhipicephalus</i> <i>Haemaphysalis</i> and <i>Ixodes</i> : Controls (2 months)			
CARBARYL 85.0 g/kg	3	Cats		Controls (3 months)		
90.0 g/kg	1	Dogs		Controls (2 months)		
120.0 g/kg	2	Dogs		Controls (3 months)		
CHLORPYRIFOS 40 g/kg	4	Cats	Adult <i>Rhipicephalus</i> : Controls (4 months)	Controls (8 months)		
80 g/kg	5	Dogs	Adult <i>Rhipicephalus</i> : Controls (5 months)	Controls (5-9 months)		

COLLARS

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CHEMICAL ACTIVE APPLICATION RATE	n	TARGET HOST	TICKS	FLEAS	LICE	MITES AND FLIES
DIAZINON 100 g/kg 150 g/kg	1 23	Dogs Cats Dogs		Controls (5 months) Controls (4-5 months) Controls (4-7 months)	Controls (5 months) Controls (5 months)	
DICHLORVOS 28 g/kg 45 g/kg 50 g/kg 60 g/kg 93 g/kg 186 g/kg	1 1 3 1 2 2	Cats Cats Cats, dogs Cats, dogs Cats, dogs Cats, dogs		Controls (3 months) Controls (3 months) Controls (3 months) Controls (3 months) Controls (3 months) Controls (3 months)		
(S) METHOPRENE 10 g/kg 20 g/kg	1 1	Dogs Cats		Controls (6months) Controls (6months) (following use of a knockdown insecticide)		
PERMETHRIN 80 g/kg	6	Cats, dogs	Adult <i>Rhipicephalus</i> : Aids control (4 months)	Controls (4 months)		
PHOSMET 170 g/kg	1	Dogs	Adult <i>Rhipicephalus</i> : Aids control (7 months)	Controls (7 months)		

COLLARS

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CHEMICAL ACTIVE APPLICATION RATE	n	TARGET HOST	TICKS	FLEAS	LICE	MITES AND FLIES
PROPOXUR 94 g/kg	2	Cats, dogs	Adult <i>Rhipicephalus</i> : Aids control (5 months)	Controls (5 months)		
PYRETHRINS 6.0g/kg	2	Cats, dogs		Controls		

COLLARS

INSECTICIDAL DUSTS

A total of 33 products (n=33) with four principal active constituents (plus a limited number of additives) were identified

Generally the efficacy claims for these products varied greatly. Most of the claims related to fleas and lice and a slightly lesser number to ticks. One product claimed fly control and another control of sarcoptic mange mite.

In relation to fleas, claims ranged from "Kills" (12 products), "Controls" (15 products) and "Kills and Controls" (3 products) through to "no claim" (3 products). Temephos powder claims 2-3 weeks residual control of fleas on dogs and cats.

In relation to lice, claims ranged from "Kills" (9 products) "Controls" (13 products) and "Kills and Controls" (2 products) through to "no claim" (7 products). Only two products made a specific claim for *Trichodectes canis*. A further two products (each containing carbaryl) claimed control of feather lice on birds as their only claim.

Tick claims varied enormously ranging from "Kills ticks" (1 product), "Controls ticks" (4 products), "Aids in control of ticks" (13 products) and "Kills and controls ticks" (2 products). Five products claimed control (or aids in control) of brown dog ticks only. Thirteen products made no claims for ticks. Only five products, where brown dog tick control was claimed, included the statement "does not control paralysis ticks". No product indicated the duration of control to be expected.

One product (carbaryl) claimed control of sarcoptic mange. One product (pyrethrins) claimed control of flies.

DISCUSSION POINTS RELATING TO INSECTICIDAL DUSTS

1. In the absence of supporting data claims for dusting powders for dogs and cats must be restricted to control of fleas, adult brown dog ticks (aids control) and lice. It is unlikely that dusts would have any significant effect on mange mites. In the absence of an effective repellent, any claim for fly control must be deleted from dust products.
2. Tick claims are considered to be weak and at best, should be restricted to "aids in the control of adult brown dog tick". The period of protection must be specified. These products must also include the mandatory statement "does not control paralysis ticks" and the recommendation for "daily searching for and removal of any ticks found".
3. All of the dusts can be safely used on dogs and cats. However all products except pyrethrins and permethrin will be required to carry the warning against their use on kittens and puppies less than three months of age unless supporting data is provided.

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4. Carbaryl and pyrethrins dusts can also be safely used for the control of lice (and possibly feather mites) on ornamental cage birds.
5. Claims for the control of sarcoptic mange mites by carbaryl dusts must be justified.

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TABLE 2 - PROPOSED MAXIMUM EFFICACY CLAIMS FOR DUSTS

CHEMICAL ACTIVE APPLICATION RATE	n	TARGET HOST	TICKS The species of ticks and the duration of control must be specified.	FLEAS The duration of control or the frequency of treatment must be specified.	LICE The duration of control or the frequency of treatment must be specified.	MITES AND FLIES The duration of control or the frequency of treatment must be specified.
CARBARYL 50.0 g/kg	13	Dogs, cats Birds	Adult <i>Rhipicephalus</i> : Aids control	Controls	Controls Controls	Controls
PERMETHRIN 8.0 g/kg 10.0 g/kg	1 1	Dogs Dogs		Controls Controls	Controls Controls	
PYRETHRINS 1.0 g/kg	7	Cats, dogs Birds		Controls	Controls Controls	Controls
1.5 g/kg	2	Cats, dogs Birds		Controls	Controls Controls	Controls
2.0 g/kg	3	Cats, dogs Birds		Controls	Controls Controls	Controls
2.5 g/kg	3	Cats, dogs Birds		Controls	Controls Controls	Controls
ROTENONE 10.0 g/kg	2	Cats, dogs		Controls		
TEMEPHOS 20.0 g/kg	1	Cats, dogs		Controls (3 weeks)		

DUSTS

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INSECTICIDAL LOTIONS, CREAMS, SPOT-ON TREATMENTS

A total of nine products (n=9) with five principal active constituents (plus a limited range of additives) was identified.

DISCUSSION POINTS RELATING TO INSECTICIDAL LOTIONS ETC

1. Maldison products control lice and provide acceptable safety to birds at 30 g/L.
2. Herbal oil products may “*aid in the control of (but not repel) fleas on dogs and cats*”. Efficacy data must be provided in support of any repellency claims.
3. Di-ethyl toluamide and Di-N-propyl isocinchomeronate repel, or protect, against flies but not fleas and lice. Citronella oil may repel flies..
4. Fenthion products provide control of fleas on dogs. The term "systemic control" appears justified. Dose rates are dependant upon body weight.
5. Permethrin controls but does not kill fleas and adult brown dog ticks.
6. The dosing frequency and the protective periods must be specified for each product and be supported with data.
7. Where claimed the adult stage of brown dog ticks must be specified.
8. Where relevant the paralysis tick disclaimer must be shown on product labels.
9. Safety and efficacy data must be provided for all products claiming use on cats.

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TABLE 3 - PROPOSED MAXIMUM EFFICACY CLAIMS FOR LOTIONS (ETC)

CHEMICAL ACTIVE APPLICATION RATE	n	TARGET HOST	TICKS The species of ticks and the duration of control must be specified.	FLEAS The duration of control or frequency of treatment must be specified.	LICE The duration of control or frequency of treatment must be specified.	MITES AND FLIES The duration of control or frequency of treatment must be specified.
FENTHION 100 g/L 125 g/L 200 g/L	1 1 2	Dogs Dogs Dogs		Controls (systemic) Controls (systemic) Controls (systemic)		
HERBAL OILS 40 g/L Eucalyptus plus melaleuca and citronella	1	Cats, dogs		Aids control		
MALDISON 30 g/L	1	Birds			Controls	
PERMETHRIN 650 g/L	1	Dogs	Adult <i>Rhipicephalus</i> : Controls (2 weeks)	Controls (3 weeks)		
PYRETHRINS 1.0 g/kg with repellants 2.0 g/kg with repellants	1 1	Cats, dogs Others				Repels flies Repels flies

LOTIONS

INSECTICIDAL SHAMPOOS

A total of 24 products with three principal active constituents were identified. Analysis of data generated was complicated by the inclusion of one or more additives to some products. This applied particularly to the pyrethrins-based shampoos. Some of these additives were also considered to be insecticidal.

The efficacy of shampoos is likely to be limited especially where the shampoo is washed from the animals coat after treatment.

DISCUSSION POINTS RELATING TO INSECTICIDAL SHAMPOOS

1. Pyrethrins shampoos at 1.0 g/L aid in the control of adult brown dog ticks (does not control paralysis ticks) and control fleas and lice on dogs and cats.
2. Claims for “repels fleas and lice” are not acceptable (without supporting data).
3. Claims for “kills fleas and lice” are not acceptable (without supporting data).
4. Tick claims must also include the recommendation for “daily searching for and removal of any ticks found”.
5. Pyrethrins and permethrin shampoos may be used on kittens and puppies less than 3 months of age.
6. Treatment intervals must be specified. Shampoos may need to be used daily to “control fleas”. Weekly use is more likely to only “aid in the control of fleas”.
7. The control of sarcoptic mange mite on dogs is considered to be a doubtful claim for any shampoo. Efficacy data must be provided to justify claims for the control of sarcoptic mange by carbaryl and carbaryl plus pyrethrins shampoos.
8. In the absence of supporting data any claims for control of ticks using shampoos should be limited to “aids in the control of adult brown dog ticks”.

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TABLE 4 - PROPOSED MAXIMUM EFFICACY CLAIMS FOR SHAMPOOS

CHEMICAL ACTIVE APPLICATION RATE	n	TARGET HOST	TICKS The species of ticks and the duration of control must be specified.	FLEAS The duration of control or frequency of treatment must be specified.	LICE The duration of control or frequency of treatment must be specified.	MITES AND FLIES The duration of control or frequency of treatment must be specified.
CARBARYL 10.0 g/L	3	Cats, dogs	Adult <i>Rhipicephalus</i> : Aids control (? duration)	Controls (frequency?)	Controls (frequency?)	
PERMETHRIN 3.0 g/L 10.0 g/L	1 1	Cats, dogs Cats, dogs	Aids control (? species) Aids control (? species)	Controls (frequency?) Controls (frequency?)	Controls (frequency?) Controls (frequency?)	
PYRETHRINS 1.0g/L	1	Cats, dogs	Adult <i>Rhipicephalus</i> : Aids control (? duration)	Controls (frequency?)	Controls (frequency?)	

SHAMPOOS

INSECTICIDAL SOAPS

A total of five products (n=5) with two principal active constituents (plus a limited number of additives) was identified.

It is clear that a degree of parasite control will be achieved by the use of insecticidal soaps. However, like shampoos, the level of control is likely to be low given the limited time exposure of the pests to the insecticide before the chemical is washed from the animal's coat in the final, clean-water rinse. Any control will most likely to be limited to "*aids in the control of fleas*" unless treatments are applied on a daily basis.

DISCUSSION POINTS RELATING TO INSECTICIDAL SOAPS

1. Efficacy data will be required for flea control claims for all products except those based on pyrethrins or coumaphos.
2. Instructions will be required for the frequency of use of these products.
3. It is suggested that, irrespective of the chemical active involved, daily treatments will be required for "*control of fleas*" and that weekly treatments would be needed for an "*aids in the control of fleas*" claim.
4. Pyrethrins at a minimum rate of 1.0 g/kg will be approved for the "*control of fleas*".
5. Pyrethrins at the rate of 0.45 g/kg will be approved for "*aids in the control of fleas*".
6. The minimum acceptable rate of coumaphos for "*control of fleas*" on dogs will be 10 g/kg. Lesser rates of the active constituent will require efficacy data to be provided.
7. Efficacy data will be required for tick, lice and mange control on claims.
8. Safety data will be required for any insecticidal soap product (except for synergised pyrethrum based products) used on cats. Safety data for the use of dichlorophen on cats will be required.

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TABLE 5 - PROPOSED MAXIMUM EFFICACY CLAIMS FOR SOAPS

CHEMICAL ACTIVE APPLICATION RATE	n	TARGET HOST	TICKS The species of ticks and the duration of control must be specified.	FLEAS The duration of control or frequency of treatment must be specified.	LICE The duration of control or frequency of treatment must be specified.	MITES AND FLIES The duration of control or frequency of treatment must be specified.
COUMAPHOS 10.0 g/kg	1	Dogs		Controls (frequency?)		
PYRETHRINS <i>Soaps with dichlorophen</i> 0.45 g/kg 1.00 g/kg 2.00 g/kg	1 1 1	Dogs Dogs Dogs		Aids control Controls (frequency?) Controls (frequency?)		
PYRETHRINS <i>Soaps less dichlorophen</i> 1.00 g/kg	1	Cats, dogs		Controls (frequency?)	Controls (frequency?)	

SOAPS

INSECTICIDAL SPRAYS

A total of 37 products (n=37) with six principal active constituents was identified.

Analysis of the data was complicated by the many different combinations of additives used in these formulations, particularly in the pyrethrins-based sprays where a total of 24 products and nine different formulations types were identified. The different formulations contained a large number of additives belonging to five functional groups as follows:

- Insecticides: Pyrethrins, S-methoprene and carbaryl.
- Synergists: PBO and N-octyl bicycloheptene dicarboximide (NOBD).
- Repellents: Di-N-propyl isocinchomerate (ISOC), di ethyl toluamide (DET) and citronella.
- Solvents: Trichlorethylene (TCE).
- Cosmetics: Glycerol (glycerine), cetrimide.

Based on the above categorisation of additives the 24 products containing pyrethrins were divided into three groupings as follows:

Group A One insecticide plus synergist with/out a cosmetic:

Pyrethrins	+PBO		(n=7).
Pyrethrins	+NOBD		(n=6).
Pyrethrins	+PBO	+ glycerine	(n=1).

Group B Two insecticides plus synergist(s) with/out solvent

Pyrethrins	+PBO	+ TCE + carbaryl	(n=1).
Pyrethrins	+PBO + NOBD	+ carbaryl	(n=1).
Pyrethrins	+PBO + NOBD	+ S-methoprene	(n=2).

Group C One insecticide plus synergist plus repellent

Pyrethrins	+PBO	+ ISOC + citronella	(n=1).
Pyrethrins	+PBO	+ ISOC + DET	(n=1).
Pyrethrins	+NOBD	+ ISOC + cetrimide	(n=4).

These products were registered for use in dogs (7), dogs and cats (14) and birds (3).

DISCUSSION POINTS RELATING TO INSECTICIDAL SPRAYS

1. Allethrin plus permethrin and the 10.0 and 31.3 g/L rates of maldison sprays are suitable for bedding sprays.
2. Maldison at 2.5 g/L and pyrethrins at 0.5 g/L are suitable for use on ornamental cage birds. Higher rates and other chemicals will require safety data for use on birds.
3. Chlorpyrifos, maldison and propoxur each appear to have valid claims for control of *Ixodes holocyclus*. Where claimed, the tick species and duration of control must be specified.
4. Chlorpyrifos, maldison, propoxur, permethrin and pyrethrins each appear to have valid claims for adult brown dog tick control. These products must carry the paralysis tick disclaimer (where this is relevant) and the recommendation for “daily searching for and removal of any ticks found”.
5. The minimum rate of pyrethrins for the control of fleas is 1.0 g/L (or 1.0 g/kg in aerosol packs). The duration of control must be specified.
6. The minimum rate of pyrethrins for the control of adult brown dog ticks is 1.8 g/L.
7. At that rate the duration of control is 7 days.
8. Fly repellent claims will not be permitted except where the products contain a proven repellent e.g. Di-N-propyl isocinchomeronate, di-ethyl toluamide or citronella oil.
9. Claims for repellency against fleas, lice or ticks will not be accepted for any product (including those products containing N-propyl isocinchomeronate, di-ethyl toluamide or citronella oil) without supporting data.

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TABLE 6 - PROPOSED MAXIMUM EFFICACY CLAIMS FOR SPRAYS

CHEMICAL ACTIVE APPLICATION RATE	n	TARGET HOST	TICKS The species of ticks and the duration of control must be specified	FLEAS The duration of control or frequency of treatment must be specified.	LICE The duration of control or frequency of treatment must be specified.	MITES AND FLIES The duration of control or frequency of treatment must be specified.
ALLETHRIN plus PERMETHRIN 1.0 g/L	1	Bedding		Controls on bedding (3 months)		
CHLORPYRIFOS 2.1 g/L	1	Dogs	Controls (3 species) Controls (16 days)	Controls (30 days)		
(RS) METHOPRENE (plus pyrethrins)		Cats, dogs		Inhibits development of flea eggs and larve (6 weeks)		
MALDISON 2.5 g/L	2	Cats, dogs Birds	Controls (?species)	Controls Controls	Controls Controls	
5.0 g/L	1	Cats, dogs	Controls (?species)	Controls	Controls	
10.0 g/L	1	Bedding		Controls on bedding	Controls on bedding	
31.3 g/L	1	Bedding		Controls on bedding	Controls on bedding	
PERMETHRIN 1.0 g/L 1.8 g/L with (RS) methoprene	2 1	Dogs Cats, dogs	Adult <i>Rhipicephalus</i> : Controls (7 days)	Controls Controls (7 days). Inhibits development flea eggs and larvae (6 weeks)	Controls Controls	

SPRAYS

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CHEMICAL ACTIVE APPLICATION RATE	n	TARGET HOST	TICKS	FLEAS	LICE	MITES AND FLIES
PROPOXUR						
2.4 g/kg	1	Cats, dogs	Controls (?species)	Controls (?duration)	Controls	
2.5 g/kg	1	Cats, dogs	Controls (?species)	Controls (?duration)	Controls	
PYRETHRINS						
<i>Sprays (Group A)</i>						
0.5 g/L	3	Birds	<i>Rhipicephalus</i> adults:		Controls	
1.0 g/L or 1.0 g/kg	5	Cats, dogs	Controls (7 days)	Controls	Controls	
1.8 g/L	4	Cats, dogs	<i>Rhipicephalus</i> adults:	Controls	Controls	
...2.0g/L	2	Cats, dogs	Controls (7 days)	Controls	Controls	
<i>Sprays (Group B)</i>						
1.0 g /L or 1.0 g/kg	2	Cats, dogs	<i>Rhipicephalus</i> adults	Controls	Controls	
1.8 g/L	2	Cats, dogs	Controls a (7 days)	Controls	Controls	
<i>Sprays (Group C)</i>						
0.3 g/L or 0.3 g/kg	4	Cats, dogs	<i>Rhipicephalus</i> adults:	Controls	Controls	Repels flies
1.5 g/L	1	Cats, dogs	Controls a (7 days)	Controls	Controls	Repels flies
2.0 g/L	1	Cats, dogs	<i>Rhipicephalus</i> adults:	Controls	Controls	Repels flies
			Controls a (7 days)			

SPRAYS

INSECTICIDAL WASHES

A total of 40 products (n=40) with nine principal active constituents was identified.

Very few additives were encountered in this group of products. The only additives considered to be of insecticidal significance were the synergists piperonyl butoxide (PBO; 4 products) and N-octyl bicycloheptene dicarboximide (NOBD; 1 product). The only other variations between the different formulations of the same active was the use of different solvents (5 products).

DISCUSSION POINTS RELATING TO INSECTICIDAL WASHES

1. Washes and rinses will, as a group, be a more effective treatment method than almost all other application types. They will usually have more robust claims in regard to the level of parasite control achieved and, dependant upon the chemical active(s) involved, can be expected to have the broadest spectrum of activity.
2. The question of solvent safety, especially to young animals and to cats, must be addressed. Rinse products which can also be used as sprays should warn against possible adverse reactions in cats. It is possible that these reactions may be solvent or surfactant related.
3. The mandatory warning against the use of products on kittens and puppies less than 3 months of age must be considered. This warning applies to all products except pyrethrins and permethrin.
4. The toxic hazard from the self grooming of cats must be addressed. The effect of experimental oral dosing of cats during safety evaluation demands consideration.
5. All rates of diazinon and the two highest rates of maldison each appear to have valid sarcoptic mange mite control claims. Phosmet claims of *aids in the control of sarcoptic mange* should be justified.
6. Coumaphos at the two highest rates appears to have valid claims for the control of *Ixodes holocyclus*.
7. It is unclear whether any of the pyrethrins wash products, regardless of the application rate used, will provide effective control of *Ixodes holocyclus*. The existing claims for pyrethrins rinse concentrates against this parasite are restricted to “prevents attachment [of paralysis ticks] for up to three days on dogs and cats”. In the absence of a recommended re-treatment interval such a claim is considered to be potentially misleading and should be rectified.
8. The disclaimer for paralysis ticks must appear on each label unless efficacy data demonstrates activity against *Ixodes holocyclus*.

**Guidelines for Acceptable Claims Based on Currently Approved Active Constituents
for Ectoparasiticides Used on Cats Dogs or Ornamental Caged Birds**

9. The only products approved for use on birds are those based on malathion or the pyrethrins. The highest rate of malathion for use on birds is 3.0 g/L.
10. The duration of control for the different parasite pests must be stated.
11. Temephos Rinse Concentrate claims 3 weeks residual control of fleas on dogs and cats . No tick control claims are approved.
12. The lowest rate of malathion for the control of sarcoptic mange mite is 5.0 g/L.

Guidelines for Acceptable Claims Based on Currently Approved Active Constituents for Ectoparasiticides Used on Cats Dogs or Ornamental Caged Birds

TABLE 7 -PROPOSED MAXIMUM EFFICACY CLAIMS FOR WASHES

CHEMICAL ACTIVE APPLICATION RATE	n	TARGET HOST	TICKS The species of ticks and the duration of control must be specified.	FLEAS The duration of control or frequency of treatment must be specified.	LICE The duration of control or frequency of treatment must be specified.	MITES AND FLIES The duration of control or frequency of treatment must be specified.
COUMAPHOS 0.12 g/L 0.22 g/L 0.23 g/L	1 2 1	Dogs Dogs Dogs	Aids control (3 species) Controls (3 tick species) Controls (3 tick species)	Controls Controls Controls	Controls Controls	
CYPERMETHRIN 0.5 g/L	2	Dogs	Controls (? species)	Controls		
DIAZINON 0.5 g/L 1.0 g/L 2.0 g/L	3 1 1	Dogs Dogs Dogs	Aids control (? species) Controls (? species) Controls (? species)	Controls Controls Controls	Controls Controls Controls	Aids in sarcoptic mange Controls sarcoptic mange Controls sarcoptic mange
FENCHLORPHOS 0.26 g/L	1	Dogs	Controls (? species)	Controls	Controls	

Guidelines for Acceptable Claims Based on Currently Approved Active Constituents for Ectoparasiticides Used on Cats Dogs or Ornamental Caged Birds

CHEMICAL ACTIVE APPLICATION RATE	n	TARGET HOST	TICKS	FLEAS	LICE	MITES AND FLIES
MALDISON 1.0 g/L	1	Cats, dogs Birds	Controls (? species)	Controls	Controls Controls	
2.5 g/L	5	Cats, dogs Birds	Controls (? species)	Controls	Controls Controls	
3.0 g/L	7	Cats, dogs Birds	Controls (? species)	Controls	Controls Controls	
5.0 g/L	5	Cats, dogs	Controls (? species)	Controls	Controls	Controls sarcoptic mange
6.0 g/L	5	Cats, dogs	Controls (? species)	Controls	Controls	Controls sarcoptic mange
(s) METHOPRENE 0.51 g/L (plus pyrethrins)	1	Cats, dogs		Controls (3-4 weeks) with knockdown insecticide in heavy infestations		
PERMETHRIN 1.0 g/L	1	Dogs		Controls	Controls	
PHOSMET 0.94 g/L	1	Dogs	Adult <i>Rhipicephalus</i> : Controls (14 days)	Controls (14 days)		Aids in sarcoptic mange
PYRETHRINS 0.01 g/L	1	Cats, dogs	Aids control (? species)	Aids control	Controls	
0.10 g/L	1	Cats, dogs Birds	Prevents attachment of paralysis ticks (3 days)	Controls	Controls Controls	
TEMEPHOS 10.0 g/L	1	Cats, dogs		Controls (3 weeks)		

WASHES

APPENDIX A

PARASITE NAMES

FLEAS

Ctenocephalides canis (dog flea)

Ctenocephalides felis (cat flea)

Ctenocephalides spp.

TICKS

Haemaphysalis longicornis (bush tick or New Zealand cattle tick)

Ixodes holocyclus (paralysis tick)

Rhipicephalus sanguineus (brown dog tick)

LICE

Trichodectes canis (biting louse-dogs)

Heterodoxus spiniger (biting louse-dogs)

Linognathus setosus (sucking louse-dogs) Note: not *Heterodoxus longitarsus*

Felicola subrostratus (biting louse-cats)

Order Mallophaga (Biting lice-birds; numerous species very host specific)

MITES

Demodex folliculorum (demodectic mange mite-dogs)

Sarcoptes scabiei (sarcoptic mange mite-dogs)

Cnemidocoptes pilae (scaly leg and face mite-birds)

Dermanonyssus gallinae (red mite-birds)

Ornithonyssus sylviarum (northern mite-birds)

APPENDIX B

CHEMICAL NAMES

INSECTICIDES

Allethrin
Amitraz
Carbaryl
Chlorpyrifos
Coumaphos
Cypermethrin
Diazinon
Dichlorvos
Fenclorphos
Fenthion
Maldison
Methoprene
Permethrin
Phosmet
Propoxur
Rotenone
Pyrethrum extracts/Pyrethrins
Temephos

SYNERGISTS

Piperonyl butoxide
N-Octyl-bicycloheptene dicarboximide

REPELLENTS

(flies and mosquitoes only)

Di-N-propyl isocinchomeronate
Diethyl toluamide
Citronella oil

SOLVENTS

Methylene chloride
Parachlorometaxyleneol
Toluene
Trichloroethylene

OTHER INGREDIENTS WITH POSSIBLE THERAPEUTIC EFFECTS

Cetrimide
Coal tar
Dichlorophen
Glycerine
Salicylic acid
Zinc pyrithione

Citronella oil
Eucalyptus oil
Melaleuca oil
Pennyroyal oil
Sulphur