

## Dog and Cat External Parasites

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Because of the increased difficulty in controlling fleas, some general information on this pest is included for the concerned owner.

Fleas pass through 4 stages of development: egg, larva, (maggot) pupa, and adult. Female fleas lay their eggs on the animal, which often fall off the animal into its sleeping place. These eggs hatch into larvae within a few days and become fully developed in about 2 weeks. Each full-grown larva spins a tiny cocoon in which to pupate. Adult fleas emerge from the cocoon after about a week and must feed on blood in order to breed and survive; however, adults can survive for several weeks without feeding.

Control of fleas on animals and in animal habitats is necessary to prevent infestations in homes, animal quarters, and yards. Carpets should be vacuumed and bedding should be washed frequently as long as fleas are a problem. Contents of vacuum cleaner bags must be carefully disposed of in order to prevent fleas from escaping back into the home or elsewhere. Choose a recommended insecticide and method from table 7.1 and use it at the same time cleaning and vacuuming is done.

**Table 7.1 - Recommended Insecticide Use**

<b>Pests</b>	<b>Insecticide Active Ingredient [% A.I. in product]</b>	<b>Mixing and Application information</b>	<b>Precautions</b>
<i>Dusts</i>			
Flea powders are not as popular as they once were. Many materials previously available as flea powder have been phased out of use in Virginia or now come in packaging inconvenient for homeowner use. Products appropriate for flea control on dogs or cats should specifically state so. Newer product labels may not include direct application to cats or dogs; always follow the label for the product.			
fleas, ticks	diatomaceous earth	Work dust into animal's coat and down to skin using a brush. Wipe excess off outer coat with damp cloth. Apply over entire body. Reapply every 2-3 days.	For cats and dogs at least 12 weeks old. May dry skin.
fleas, ticks, lice	permethrin [0.25%]	No mixing necessary. Wearing latex or rubber gloves, dust animal gently, working product down to skin. Use 0.5 oz. on animals 20 lbs. or less and 1 oz. on animals over 20 lbs. Avoid getting dust in eyes. See label for when to repeat application.	For dogs and cats at least 12 weeks old.
<i>Chewable tablets</i>			
There are various flea and tick treatments now available in the form of chewable tablets that may contain afoxolaner, fluralaner, lufenuron, spinosad, and/or other active ingredients. These tablets are considered veterinary drugs and require a prescription. See your veterinarian for more information.			
<i>Collars</i>			
Place collar around animal's neck and adjust to fit. Tight collars may irritate the skin and cause strangulation. Collar should be loose enough to move freely around the neck with 2-3 inches of slack. Cut off excess collar length and dispose in trash. Always wash hands after handling collar. Insecticidal dust can form on collars during storage. This dust is harmful if swallowed; do not get in eyes or mouth.			
fleas	(S)-methoprene [1%]	For dogs with up to 20" necks.	Breaks flea life cycle but does not kill adult fleas.
fleas, ticks	bioallethrin [0.12%] + piperonyl butoxide [0.5%]		For dogs or cats at least 12 weeks old.
fleas, ticks	deltamethrin [4%]	Must wear 2-3weeks before full protection occurs.	For dogs at least 12 weeks old. Do not use on cats.
fleas, ticks	propoxur [9%]		For dogs or cats at least 12 weeks old.

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**Table 7.1 - Recommended Insecticide Use (cont.)**

Pests	Insecticide Active Ingredient [% A.I. in product]	Mixing and Application information	Precautions
<i>Collars (cont.)</i>			
fleas, ticks	propoxur [10%] + (S)-methoprene [2.1%]	Choose appropriate collar size based on animal's neck size.	For dogs or cats at least 12 weeks old.
fleas, ticks	propoxur [9%] + phenothrin [3%] + n-octyl bicycloheptene dicarboximide [3%]	Choose appropriate collar size based on animal's neck size.	For dogs or cats at least 12 weeks old.
fleas, ticks	propoxur [9%] + phenothrin [3%] + n-octyl bicycloheptene dicarboximide [3%] + pyriproxyfen [0.5%]		For dogs or cats at least 12 weeks old.
fleas, ticks	tetrachlorvinphos [14.55%] + (S)-methoprene [1.02%]	Choose appropriate collar size based on animal's neck size.	For cats at least 12 weeks old or dogs at least 6 weeks old.
fleas, ticks	zetacypermethrin [10%] + piperonyl butoxide ether and related compounds [20%]	Attach medallion to dog's collar according to directions. Available in multiple dosage sizes according to weight of dog.	For dogs at least 6 months old and weighing at least 14 lbs. Do not use on cats.
fleas, ticks, (plus lice, mites on dogs)	flumethrin [4.5%] + imidicloprid [10%]	Choose appropriate collar based on dog's weight. See label regarding control duration and bathing the animal.	For dogs at least 7 weeks old or cats at least 10 weeks old.
ticks	amitraz [9%]	Choose collar according to size of dog's neck and weight.	For dogs at least 12 weeks old. <b>Do not use on cats.</b> Not for use on dogs taking certain medications; see label for information.
<i>Sprays and Dips</i>			
mange mites	benzyl benzoate [29%]	Ready-to-use spray. Clip hair from affected area, bathe animal and let dry before spraying. Do not spray in mouth, nose, ears, eyes, or genitals.	Use only on dogs 12 weeks or older. Do not use on pregnant or nursing dogs.
fleas, ticks, mosquitoes	botanical oils and/or extracts such as cedar oil, peppermint oil, etc.	Ready-to-use sprays. Mist animal's back, shoulders, sides, stomach, legs, and neck, then comb through to skin. For head and eye area, apply spray on washcloth and wipe gently on fur on head. Avoid animal's eyes, face, and genitals.	Generally for dogs and cats at least 12 weeks old.
fleas, ticks	fipronil [0.29%]	Ruffle the animal's coat with one hand while spraying mist to animal's back, shoulders, sides, stomach, legs, and neck. For head and eye area, apply spray on a gloved hand and wipe gently on fur on head. Do not get product into animal's eyes or mouth. Wait 30 days before reapplying. See label for complete details.	For cats and dogs at least 8 weeks old. Wear eye protection and latex gloves.
ticks	isopropyl myristate [50%]	Ready-to-use spray for cats and dogs. Apply to ticks directly when seen on pet.	Cover animal's eyes. Follow label instructions if tick has not fallen off in 3 hours after application.

**Table 7.1 - Recommended Insecticide Use (cont.)**

<b>Pests</b>	<b>Insecticide Active Ingredient [% A.I. in product]</b>	<b>Mixing and Application information</b>	<b>Precautions</b>
<i>Sprays and Dips (cont.)</i>			
fleas, ticks, lice	pyrethroids, with or without pyrethrins, synergists, insect growth regulators, etc.  permethrin, etofenprox	Various sprays and dips are available containing pyrethroids with and without other materials. Follow directions on product labels regarding mixing, application, and wait time for reapplication.	Follow label directions regarding animal size and age. Use on cats only if stated on label.
fleas, ticks, lice	synergized pyrethrins, with or without repellents, insect growth regulators, etc.  pyrethrins + pyriproxyfen	Various sprays and dips are available containing pyrethrins with and without other materials. Follow directions on product labels regarding mixing, application, and wait time for reapplication. Do not spray eyes, nose, mouth, or genitals. Follow directions on product label regarding wait time for reapplication.	For use on dogs at least 6 months old and cats at least 7 months old.
fleas, ticks	bioallethrin [0.25%] + permethrin [0.15%]	See label for products containing these active ingredients and percentages	See label or box precautions
fleas, ticks, lice	permethrin [2.5%]	See label for products containing this active ingredient and percentage	See label or box precautions
fleas, ticks, lice	permethrin [0.25%]	See label for products containing this active ingredient and percentage	See label or box precautions
<i>Shampoos</i>			
fleas	botanical oils and/or extracts such as cedar oil, peppermint oil, etc.	Follow label instructions. Avoid animal's eyes, face, and genitals.	Generally for dogs and cats at least 12 weeks old.
fleas, ticks, mosquitoes	d-limonene [5%]	Use protective gloves and follow label directions. Wait one week before using again.	For cats and dogs at least 12 weeks old.
fleas, ticks	permethrin [0.25%]	Follow label regarding reapplication time.	<b>For dogs only.</b> For puppies at least 12 weeks old.
fleas, ticks, lice	permethrin [0.5%]	Follow label regarding reapplication time.	<b>For dogs only.</b>
fleas, ticks, lice	synergized pyrethrins, with or without insect growth regulators, etc.	Various shampoos are available containing synergized pyrethrins and/or insect growth regulators. Follow label directions regarding application to cats or dogs.	For cats and dogs at least 12 weeks old.
fleas, ticks	pyrethrins [0.18%] + 2-[1-methyl-2-(4-phenoxyphenoxy) ethoxy]pyridine [0.125%] + n-octyl bicycloheptene dicarboximide [0.957%]	Follow label regarding reapplication time.	For kittens at least 12 weeks old.
<i>Roll-on, Wipe-on, and Ointments</i>			
mange mites	sulfur [28%]	Ready-to-use skin ointment or liquid for local application.	Do not use on cats.
biting flies, nuisance flies	synergized pyrethrins [0.2%] + dipropyl isocinchomeronate [1%] with or without other ingredients	Ready-to-use formulation. Follow directions on label.	

## 7-4 Pets: Dog and Cat External Parasites

**Table 7.1 - Recommended Insecticide Use (cont.)**

Pests	Insecticide Active Ingredient [% A.I. in product]	Mixing and Application information	Precautions
<i>Spot Ons</i>			
<p>Many spot on treatments for fleas and ticks are now available on the market without a prescription. These are ready-to-use topical treatments, usually applied in 1-2 spots along the animal's back. Applications for dogs are typically available in multiple dosage sizes according to the weight of the animal. Read the product label carefully for directions on how to apply the material. Pay particular attention to any restrictions on the age and weight of the animal to be treated. Materials labeled for dogs should never be used on cats; <b>some materials approved for dogs are potentially fatal for cats</b>. Some breeds of dogs, such as collies and other herding breeds, may be particularly sensitive to some materials; consult your vet for more information.</p> <p>Topical treatment containing selamectin is effective against ticks, fleas, and mites. This material is considered a veterinary drug and is available by prescription; consult your vet for more information.</p>			
fleas	dinotefuran [22%] + pyriproxyfen [3%]	Ready-to-use topical treatment. Follow label directions for application. Available in multiple dosage sizes according to weight of animal.	For cats at least 8 weeks old and weighing at least 2 lbs. For dogs at least 8 weeks old and weighing at least 2.5 lbs.
fleas, ticks, mosquitoes	dinotefuran [4.95%] + permethrin [36.08%] + pyriproxyfen [0.44%]	Ready-to-use topical treatment. Follow label directions for application regarding dog's size. Available in multiple dosage sizes according to weight of animal.	For dogs at least 7 weeks old and weighing at least 2.5 lbs. Do not use on cats.
fleas, ticks, mosquitoes	etofenprox [40%] + (S)-methoprene [3.6%]	Ready-to-use topical treatment.	For cats at least 12 weeks old and at least 5 lbs.
fleas, ticks, biting flies	etofenprox [30%] + (S)-methoprene [3.6%] + piperonyl butoxide [5%]	Ready-to-use topical treatment. Follow label directions for application regarding dog's size. Available in multiple dosage sizes according to weight of dog.	For dogs at least 10 weeks old.
fleas, ticks, biting flies	etofenprox [55%] + piperonyl butoxide [10%] + pyriproxyfen [0.5%] + MGK 264 [1%]	Ready-to-use topical treatment. Follow label directions for application. Available in multiple dosage sizes according to weight of dog.	For dogs at least 12 weeks old and weighing at least 5 lbs.
fleas, ticks, mosquitoes	etofenprox [50%] + piperonyl butoxide [9.1%] + n-octyl bicycloheptene dicarboximide [0.91%] + pyriproxyfen [0.45%] + (S)-methoprene [0.23%]	Ready-to-use topical treatment. Follow directions carefully. Follow directions regarding dog's size and placement of material. Available in multiple dosage sizes according to weight of dog.	Use only on dogs at least 12 weeks old AND weighing at least 5 lbs. Do not use on cats.
fleas, ticks Some products may control additional insects and/or mites. See product label for details.	fipronil, with or without pyrethroids, insect growth regulators, additional insecticides, or synergists  Possible combinations of materials with fipronil include: fipronil + (S)-methoprene fipronil + cyphenothrin fipronil + etofenprox fipronil + novaluron fipronil + permethrin fipronil + (S)-methoprene + amitraz  fipronil + (S)-methoprene + etofenprox  fipronil + (S)-methoprene + cyphenothrin	Ready-to-use topical treatment. Usually available in multiple dosage sizes according to weight of dog.  Because there are so many fipronil products on the market, some products may have different instructions. <b>Read the label before use.</b>  In general, hold the tube upright and snap applicator tip away from face and body. Place tip through animal's fur to bare skin between shoulder blades. Follow directions regarding where to place the material.	<b>Do not use on cats unless labeled for cats.</b> Generally for dogs at least 8 weeks old or cats at least 12 weeks old but check product label for age and possibly weight restrictions.

**Table 7.1 - Recommended Insecticide Use (cont.)**

<b>Pests</b>	<b>Insecticide Active Ingredient [% A.I. in product]</b>	<b>Mixing and Application information</b>	<b>Precautions</b>
<i>Spot Ons (cont.)</i>			
fleas, ticks, lice, mites, mosquitoes	cyphenothrin + pyriproxyfen	Ready-to-use topical treatment. While holding tube upright, snap applicator tip away from face and body. Place tip through animal's fur to bare skin between shoulder blades. Follow directions regarding where to place the material. Usually available in multiple dosage sizes according to weight of dog.	See label for specific animals
fleas, ticks, lice, mosquitoes	imidacloprid [8.8%] + permethrin [44%]	Ready-to-use topical treatment. Product should be applied monthly during flea, tick, and mosquito season. Available in multiple dosage sizes according to weight of dog.	<b>For Dogs Only.</b> For dogs and puppies 7 weeks or older.
fleas, ticks	indoxacarb [13.01%] + permethrin [42.5%]	Ready-to-use topical treatment. Follow label directions for application regarding dog's size. Available in multiple dosage sizes according to weight of dog.	<b>For Dogs Only.</b> For dogs at least 8 weeks old and weighing more than 4 lb.
fleas, ticks, lice, mosquitoes, mites	permethrin [45%] + pyriproxyfen [5%]	Ready-to-use topical treatment. Available in dosage sizes of 15-33 lbs and 33-66 lbs.	<b>For Dogs Only.</b> For dogs and puppies 12 weeks or older.
fleas, ticks, biting flies	phenothrin [85.7%] + (S)-methoprene [2.3%]	Ready-to-use topical treatment. Follow label directions for application. Available in multiple dosage sizes according to weight of dog.	For dogs at least 12 weeks old and weighing at least 4 lbs.
fleas	spinetoram [39.6%] Assurity	Ready-to-use topical treatment. Apply to skin on neck at base of head.	Do not use on dogs. For cats at least 8 weeks old.
<i>Ear Drops</i>			
There are several treatments effective for ear mites that are available by prescription. These veterinary drugs may contain selamectin, imidacloprid, or other active ingredients. See your vet for more information.			
ear mites	synergized pyrethrins	Ready-to-use drops for dogs and cats. Consult label for proper dosage and timing of application.	For cats and dogs 12 weeks old or older. Do not contaminate feed or water.

Read entire label before using any of these materials. It is a violation of Federal law to use these products in a manner inconsistent with its label. Only apply product to the animals listed on the label. For instance, several products for canines are highly toxic to felines. Follow precautions on label regarding pregnant, nursing, sick, medicated, or debilitated animals. Follow any age and/or weight restrictions listed on label. Consult your veterinarian if you have any questions regarding application methods, when to reapply the material, or concerns regarding your pet's safety. Materials listed here are approved currently for use in the state of Virginia, but may not be widely available.

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