

## Dog and Cat External Parasites

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Because of the increased difficulty in managing fleas, some general information is included for pet owners. Fleas pass through four stages of development: egg, larva, pupa, and adult. Female fleas lay their eggs on the animal, which usually fall off the animal where it sleeps. These eggs hatch into larvae within a few days and develop in about two weeks. A mature larva spins a tiny cocoon in which it pupates. Adult fleas emerge from the cocoon in about a week. They must feed on blood in order to live and lay eggs. However, adults can survive for several weeks without feeding.

Management of fleas on animals and where they live is necessary to prevent infestations in homes, animal quarters, and yards. Carpets should be vacuumed regularly and animal bedding should be washed frequently as long as fleas are an indoor problem. The contents of a vacuum should be carefully disposed in order to prevent fleas from escaping back into the home or elsewhere. Choose a recommended control method from Table 7.1 and use it in conjunction with vacuuming and laundering.

Treatments available for sale online and delivered to Virginia may not be approved by VDACS for use in Virginia. Follow all label directions regarding use of a product on sick, debilitated, pregnant, or nursing animals. Even healthy pets may be sensitive to a product generally approved for use. If a pet develops an adverse reaction to a treatment, promptly follow these steps. 1) Remove the flea collar if the pet is wearing one. 2) Quickly bathe or wipe down the pet to remove as much insecticidal spray, dusts, dips, ointments, and recently applied topical materials as possible. Do not use insecticidal shampoo to bathe pet. 3) Promptly take the pet to a veterinarian. Take the packaging of any insecticidal treatment suspected of causing the symptoms with you to show the vet.

**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 are no longer approved for use in Virginia or now come in packaging inconvenient for homeowner use. Product labels should specifically state on the label that they are appropriate for flea control on dogs or cats. New product labels may not include direct application to an animal. Some products are only labeled for application to an animal's bedding, sleeping area, or other places where fleas are found. Always follow the label regarding application.			
fleas, ticks, lice	diatomaceous earth (silicon dioxide)	No mixing necessary. Follow label regarding minimal age of pet, how to apply, and wait time before reapplying.	Do not directly apply to animal unless stated on label. For cats and dogs at least 12 weeks old. May dry skin.
fleas, ticks, lice	permethrin [0.25%]	No mixing necessary. Use gloves and avoid getting in eyes. Follow label regarding minimal age of pet, how to apply, amount to apply based on pet's weight, and wait time before reapplying.	Generally for dogs at least 12 weeks old. Do not apply to cats unless specified on product label.
fleas, ticks, lice	pyrethrins with synergists	No mixing necessary. Dust pet beginning at head and working back, getting material down to skin. Can be used on bedding.	Generally for dogs or cats at least 12 weeks old.
fleas, ticks, lice	gardona (tetrachlorvinphos) [3.3%]	No mixing necessary. Dust pet beginning at head and working back, getting material down to skin. Follow label regarding dosage by animal size, treatment of bedding and wait time before reapplying.	For dogs or cats at least 12 weeks old. Follow label restrictions regarding cholinesterase inhibiting drugs and other pesticides or chemicals.
fleas	botanical oils such as thyme oil, lemongrass oil, and rosemary oil	No mixing necessary. Dust pet beginning at head and working back, getting material down to skin. Can be used on bedding.	For dogs and cats at least 6 weeks old. Do not use on nursing animals.

## 7-2 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
<b>Chewable tablets</b>			
Various flea and tick treatments are now available as chewable tablets that contain afoxolaner, fluralaner, lufenuron, spinosad, and/or other active ingredients. These tablets are considered veterinary drugs and require a prescription. Other chewable tablets containing imidicloprid or nitenpyram may be available without a prescription, but they are not under the scope of this guide. Consult your veterinarian for more information.			
<b>Collars</b>			
Use gloves when handling collars. Place collar around animal's neck and adjust to fit. Tight collars may irritate skin and strangle the animal. Collar should be loose enough to move freely around the animal's neck with 2-3 inches of slack. Cut off excess collar length and dispose in the trash. Always wash hands after handling the collar. Insecticidal dusts may form on collars during storage. This dust is harmful if swallowed; do not get in eyes or mouth. Follow any other precautions listed on collar label. Replace collar as directed on label. Collar may not protect against all pests listed on the label for the same length of time.			
fleas, ticks	deltamethrin with or without other materials	May need 2-3 weeks after placement to reach full effectiveness.	For dogs at least 12 weeks old. Do not use on cats.
fleas, ticks	tetrachlorvinphos [14.55%] with or without (S)-methoprene [1.02%]	Choose appropriate collar size based on size of dog's neck. Universal collar size for cats.	For dogs and cats. See label for age restrictions and caution when used with certain medications.
fleas, ticks	botanical oils such as geraniol, cinnamon oil, lemongrass oil, clove oil, cedarwood oil, peppermint oil, etc.	Choose appropriate collar size based on size of dog's neck. Universal collar size for cats. May take 2-3 weeks after placement to reach full effectiveness.	For dogs and cats. See label for age restrictions of animal.
fleas, ticks	flumethrin [4.5%] + imidacloprid [10%]	If for dog, choose collar according to size of dog's neck and weight. Universal collar size for cats.	For dogs at least 7 weeks old and 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. Do not use on cats. Not for use on dogs taking certain medications. See label.
fleas, ticks	gardona [14.55%] with or without (S)-methoprene [1.02%]	Choose collar size based on dog's neck size. Universal collar size for cats.	See label for age restrictions.
<b>Sprays and Dips</b>			
mange mites	benzyl benzoate [29%]	Ready-to-use spray. Clip hair from affected area, bathe animal, and let dry before spraying. Do not use in mouth, eyes, ears, nose, or genitals.	For dogs at least 12 weeks old. Do not use on pregnant or nursing dogs. Do not use on cats.
fleas, ticks, mosquitoes	botanical oils and/or extracts such as cedar oil, peppermint oil, lemongrass oil, etc.	Ready-to-use spray. Mist animal's back, shoulders, sides, stomach, legs, and neck, then comb through to skin. For head, apply spray to washcloth and gently wipe fur on head. Avoid animal's eyes, face, and genitals.	See label for age restrictions. <b>Use commercial sprays; homemade preparations are not recommended.</b> Some essential oils are toxic; use only on the pet species listed on label.
fleas, ticks, sometimes other insects or mites. See product label for details.	fipronil 0.29% with or without [S]-methoprene	Ready-to-use spray. Mist animal's back, shoulders, sides, stomach, legs, and neck. For head, apply spray on gloved hand and gently wipe fur on head. Do not get product in animal's eyes or mouth. See label for complete details, including wait time before reapplying.	For cats and dogs at least 8 weeks old. See label for restrictions on age and/or weight of animal. Wear eye protection and latex gloves when applying.

**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>
ticks	isopropyl myristate [50%]	Ready-to-use spray for cats and dogs. Apply to ticks directly when found on pet. Follow label directions on tick disposal.	Cover animal's eyes. Follow label directions if tick has not dropped off within 3 hours after application.
fleas, ticks, sometimes other insects and mites	pyrethroids with or without pyrethrins, synergists, insect growth regulators, etc.	Various sprays and dips are available with pyrethroids and other materials. Follow directions on product labels regarding mixing, application, and wait time before reapplication.	Follow label directions regarding animal's weight and age. Use on cats only if specified on label.
fleas, ticks, lice, sometimes biting flies	pyrethrins, with or without [S]-methoprene, synergists, repellents, insect growth regulators, etc.	Various sprays and dips are available with pyrethrins and other materials. Do not spray eyes, mouth, ears, nose, or genitals. Follow directions on product labels regarding mixing, application, and wait time before reapplication.	Usually for dogs and cats at least 12 weeks old. Follow label directions regarding animal's weight and age.
fleas, ticks	gardona (tetrachlorvinphos) [1.08%] with or without (S)-methoprene [0.07%]	Ready-to-use spray. Mist animal's back, shoulders, sides, stomach, legs, and neck. For head, apply spray on gloved hand and gently wipe fur on head. Do not get product in animal's eyes or mouth. See label for complete details, including wait time before reapplying.	Usually for dogs and cats at least 12 weeks old. Use only on animal listed on product label.
<b>Shampoos</b>			
fleas, ticks	botanical oils and/or extracts such as cedar oil, peppermint oil, rosemary oil, clove oil, etc.	Follow label directions. Avoid animal's eyes, face, and genitals.	See label for age restrictions. Use commercial preparations. Homemade preparations not recommended. Some essential oils are toxic; use only on the pet species listed on label.
fleas, ticks, sometimes other insects. See product label for details.	d-limonene [5%]	Use protective gloves and follow label directions, including wait time for reapplication.	For dogs and cats at least 12 weeks old.
fleas, ticks, sometimes lice	pyrethroids, with or without synergists, insect growth regulators, etc.	Follow label directions regarding wait time for reapplication.	For dogs at least 12 weeks old. Do not use on cats.
fleas, ticks, sometimes lice	pyrethrins, with or without synergists, repellents, insect growth regulators, etc.	Follow label directions regarding application to cats or dogs, including wait time for reapplication.	For dogs and cats at least 12 weeks old.
<b>Roll-on, Wipe-on, and Ointments</b>			
mange mites	sulfur [28%]	Ready-to-use ointment for local application.	For dogs at least 12 weeks old. Do not use on cats.
biting and nuisance flies	pyrethrins, with or without synergists, repellents, insect growth regulators, etc.	Ready-to-use ointment for local application.	For dogs at least 12 weeks old. Do not use on cats.
fleas, ticks	Botanical oils and/or extracts such as cedar oil, peppermint oil, etc.	Ready-to-use wipes. Follow label directions on application.	Generally for dogs and cats at least 12 weeks old. See label for age restrictions.

## 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 On Topical Treatments</i>			
<p>Many spot on treatments for fleas and ticks are widely available on the market without a prescription. These are ready-to-use topical treatments that are usually applied in 1-2 spots on the animal's neck or back. Applications for dogs are typically available in multiple dosage sizes based on the animal's weight. 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. <b>Materials labeled for dogs should never be applied to cats. Some materials approved for dogs are potentially fatal to cats.</b> Some breeds of dogs, such as collies and other herding dogs, may be particularly sensitive to some materials. Consult your veterinarian for more information, especially if a treated animal shows any sensitivity to a product.</p> <p>Topical treatments containing selamectin, fluralaner, and/or other active ingredients are considered veterinary drugs and require a prescription. Consult your veterinarian for more information.</p>			
fleas, ticks, sometimes other insects or mites. See product label for details.	fipronil, with or without pyrethroids, insect growth regulators, synergists, or other insecticides Possible ingredients included with fipronil in various combinations include: (S)-methoprene cyphenothrin etofenprox permethrin	Ready-to-use topical treatment. Dosage based on weight of dog. Read label for use as different products have different instructions. Available in multiple dosage sizes based on dog's weight.  In general, hold tube upright and snap applicator tip away from face and body. Place tip through animal's fur to bare skin on neck or between shoulder blades. Follow directions regarding application placement.	Do not use on cats unless labeled for cats. Usually for dogs at least 8 weeks old or cats at least 12 weeks old, but check label for age and weight restrictions.
fleas, ticks, lice, biting flies	dinotefuran with or without other insecticides, insect growth regulators, etc.	Ready-to-use topical treatment. May be available in multiple dosage sizes based on animal's weight.	For dogs and cats at least 8 weeks old. Follow weight restrictions on label. Only use product labeled specifically for the species of pet.
fleas, ticks, mosquitoes	etofenprox with or without insect growth regulators, synergists, other insecticides, etc.	Ready-to-use topical treatment. Apply as directed on label. Available in multiple dosage sizes based on dog's weight.	Usually for dogs and cats at least 12 weeks old. Follow weight restrictions on label. Only use product labeled specifically for the species of pet.
fleas, ticks, mosquitoes	cyphenothrin with or without insect growth regulators, synergists, other insecticides, etc.	Ready-to-use topical treatment. Apply as directed on label. Available in multiple dosage sizes based on dog's weight.	For dogs at least 12 weeks old. Do not use on cats.
fleas	imidacloprid with or without permethrin, insect growth regulators, or other materials	Ready-to-use topical treatment. Apply as directed on label. Available in multiple dosage sizes based on dog's or cat's weight.	For dogs at least 7 weeks old and cats at least 8 weeks old. Only use product labeled specifically for the species of pet.
fleas; also ticks if with permethrin	indoxacarb with or without permethrin	Ready-to-use topical treatment. Apply as directed on label. Available in multiple dosage sizes based on dog's or cat's weight.	For dogs and cats at least 8 weeks old. Do not use on cats unless specified on label.

**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>
fleas, ticks, lice, biting flies	permethrin with or without pyrethrins, insect growth regulators, or other materials	Ready-to-use topical treatment. Apply to skin beginning between shoulder blades and along back to base of tail. Available in multiple dosage sizes based on dog's weight.	Follow label regarding dogs's weight and age. Do not use on cats.
fleas	spinetoram [11.2%]	Ready-to-use topical treatment. Apply to skin at base of head.	For cats at least 8 weeks old and at least 1.8 lbs. Do not use on dogs.
fleas, ticks, mosquitoes	botanical oils and/or extracts such as peppermint oil, cinnamon oil, lemongrass oil, clove oil, thyme oil, etc.	Ready-to-use topical treatment. Available in multiple dosage sizes based on dog's weight. Apply between back of head and the shoulder blades.	For dogs and cats at least 12 weeks old. Do not use on cats unless specified on the label. Use commercial products. Homemade preparations not recommended as some essential oils can be toxic.
<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. Consult your veterinarian for more information.			
ear mites, ear ticks	Synergized pyrethrins	Ready-to-use drops for dogs or cats. Consult label for proper dosage and timing for reapplication.	For cats and dogs at least 12 weeks old. Do not contaminate feed or water.

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