

 PURINA
PRO PLAN

DOG Update

A NESTLÉ PURINA PUBLICATION DEDICATED TO DOG ENTHUSIASTS

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**FALL
ALLERGY
SEASON**

Providing Relief
to Affected Dogs

GET READY FOR DOG ALLERGIES IN FALL

WEEDS THAT CAN CAUSE FALL ALLERGIES

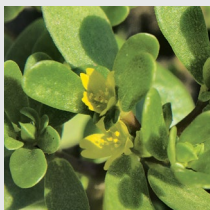
In the fall, these perennial weeds are among those that release billions of pollen grains into the air. Dogs having hypersensitive immune systems are susceptible to allergies from pollen released by these plants.



Curly Dock



Lamb's Quarters



Pigweed



Sagebrush

Golden Retriever enthusiast Lisa Newton looks forward to fall with a passion.

Autumn's warm, golden days and cool evenings beckon the start of hunting season for upland game, the ring-necked pheasant and mallard ducks that live in the prairie cover and marshes of Northern California. Hardwired to please, her field-trained Golden Retrievers revel in the start of bird season, fully charged and ready to roll.

An avid sporting enthusiast and AKC (American Kennel Club) hunt-

ing test judge, Newton, of Placerville, California, has learned from experience that fall also brings a burst of allergens into the environment. As the weed perennials found abundantly in the countryside begin drying up, their life cycle over for the season, they release billions of pollen grains into the air. Among the culprits are ragweed, dogfen-nel, dandelion, sheep sorrel, pig-weed, sagebrush, goldenrod, and lamb's quarter.

Nearly 10 percent of dogs suffer from allergies caused by environ-



"Taitt" (Gaylan's Saffron Pop the Cork CDX RE TD MH), 12 years old, began suffering from allergies when she was 5 years old. Owner Lisa Newton of Placerville, California, has learned to stay on top of allergy signs for best results.



“Brix” (GCH Saffron Cuvee Royale BN RN TD MH DDHF), almost 9 years old, the first Golden Retriever bitch to earn Grand Champion and Master Hunter titles, suffers from allergies that are managed with veterinary care using dermatological medications and lotions.

mental allergens. Newton’s female Golden Retrievers, “Taitt” (Gaylan’s Saffron Pop the Cork CDX RE TD MH), 12 years old, and “Brix” (GCH Saffron Cuvee Royale BN RN TD MH DDHF), almost 9 years old, fall into that category.

“Field trialing and pheasant hunting exacerbate the problem because as the dogs run through tall, dry grasses and weeds in pursuit of game, they inhale the allergens,” Newton says. “Even the water and mud are thick with allergens at certain times of the year, and they absolutely love to swim and get in the water.”

Taitt was Newton’s first allergy-affected dog. “The ragweed and other grasses wreak havoc with her immune system,” she says. “Around when she was 5, Taitt’s allergies got worse in the fall. She was itchy and would rub the walls of the house for relief, and her eyes were teary and droopy. Her skin was inflamed and had an odor.”

“Allergies tend to become more severe over time,” says Domenico Santoro, DVM, MS, DrSc, PhD, DACVD, DECVD, assistant professor of veterinary dermatology at the University of Florida. “A man-

ageable situation without veterinary intervention one season may not be possible the next year. You should check with your veterinarian as soon as you see any worsening of clinical signs.”

Dr. Santoro advises that it is much better to prevent the clinical signs of allergies in the first place. If allergy signs occur, it is best to intervene sooner than to wait and see if they go away.

“The most common signs are skin-related,” he says. “The majority of dogs scratch and rub more than usual. Some dogs may also have runny eyes.”

AN IMMUNE REACTION

Fall allergies are those that occur from pollen released exclusively in the fall season. In reality, the environment teems with allergens year-round, and thus can be problematic for sensitive dogs. In geographical areas that do have freezing temperatures in winter, allergens may build up and cause yearlong suffering.

“Spring through fall are busy allergy seasons for dogs,” Dr. Santoro says. “It all depends on what type of pollen to which a dog is allergic. Generally, spring

ALLERGY SIGNS IN DOGS

- Frequent Itching
 - Ear and/or eye infections
 - Sneezing
 - Red, irritated skin
 - Bumps on the skin
 - Loss of coat
-

is the season for tree allergens, summer for grasses, and fall for weeds. Many weeds are very allergenic, and many dogs are sensitive to them.”

The immune system of most dogs will adapt to the pollens of the changing fall season and resolve any clinical signs. Dogs with an over-reactive immune system — or hypersensitive immune system — to a particular allergen experiences an allergic reaction.

Environmental allergens, absorbed mainly through a dog’s skin, orally or from breathing, can cause atopic dermatitis. This disorder is a chronic inflammatory skin disease that results from an inappropriate immune reaction. Dogs that are hypersensitive lack skin barri-

er protection against allergens, which allows them to penetrate the skin and trigger their allergies.

It is estimated that about 60 breeds as well as mixed-breed dogs are predisposed to atopic dermatitis. The disorder is the second most common allergy in dogs after flea bite allergy. A flea-bite sensitivity can dramatically increase a dog’s clinical signs of allergy.

Dogs can have concurrent allergies with overlapping clinical signs, making it challenging to diagnose atopic dermatitis. For example, scratching, rubbing, chewing, and excessive grooming occur in dogs with flea bite allergy as well as atopic dermatitis.

When allergens trigger an inappropriate immune response, it results



TIPS ON CARING FOR A DOG WITH FALL ALLERGIES

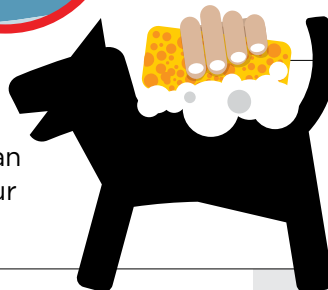
1 Allowing dogs to stick their head out of a window of a moving vehicle is never a good idea, but doubly important for dogs with fall allergies, as it exposes them to pollens. Use the air conditioner instead.



3 Wipe off a dog's feet when they come in from outdoors to help reduce pollen in between their paw pads. This is particularly important in dogs that frequently lick their feet.



2 Antihistamines can be helpful in reducing clinical signs of fall allergies, but some antihistamines have a sedating effect and thus could affect a dog's performance. Consult your veterinarian to find an appropriate antihistamine for your individual dog.



4 Bathing dogs after swimming or working in the field may help reduce allergens on their coats.

in the production of allergen-specific IgE (immunoglobulin E) antibodies. These antibodies bind to mast cells and then become cross-linked by specific allergens, leading to mast-cell degranulation and the development of a hypersensitivity reaction. When this occurs, it causes pruritus, or itching, and inflammation.

Factors that impact whether a dog can adapt to environmental allergens include the dog's overall health and whether any underlying diseases compromise immune system function, such as cancer, autoimmune disease, Cushing's disease, or hypothyroidism. Dogs being treated with steroids or chemotherapy could be more susceptible. Sometimes the degree of exposure to allergens is a factor.

A NOVEL TREATMENT

Discovering a novel treatment for atopic dermatitis was [the focus of a recently completed University of Florida study](#) led by Dr. Santoro. The investigation involved looking at antimicrobial peptides (AMPs), or small proteins that defend against pathogens, to learn if allergic dogs, like people, have lower AMP secretion. A report on the two-year study, which was funded by the AKC Canine Health Foundation, currently is being prepared for scientific publication.

"Canine atopic dermatitis is a chronic disease that is expensive to treat for both dog owners and veterinarians," says Diane Brown, DVM, PhD, DACVP, CEO of the AKC Canine Health Foundation. "The AKC Canine Health Foundation is committed to funding research to improve understanding of the pathophysiology, environmental triggers and exacerbating factors of atopic dermatitis. Our goal is to improve outcomes for dogs that suffer from this condition."

"Atopic dogs have altered skin barrier function, transepidermal water loss and decreased ceramide concentrations, and some dogs are believed to have abnormal fillagrin expression," explains Dr. Santoro. "Fillagrin is a protein associated with filaments that bind to keratin fibers in epithelial cells. It is essential for skin barrier function, and in people, fillagrin mutations are associated with a subtype of atopic dermatitis. Ceramides are important because they allow the stratum corneum layer of the skin to stretch and bend by fluidizing the lipid barrier on the surface. Defects in ceramide can result in poor barrier function."

Defective secretion of AMPs by allergic skin cells is likely associated with reduced microbicidal

"Generally, spring is the season for tree allergens, summer for grasses, and fall for weeds. Many weeds are very allergenic, and many dogs are sensitive to them."

Domenico Santoro, DVM, MS, DrSc, PhD, DACVD, DECVD, University of Florida

effects by atopic keratinocytes, Dr. Santoro says. “Keratinocytes are highly active immunological cells involved in the acute and chronic phases of skin inflammation via production of chemokines and expression of surface molecules.

“Keratinocytes from skin disorders like atopic dermatitis may show intrinsic abnormalities in their capacity to respond to trigger factors,” he says. “This results in bacteria not being effectively killed due to the retention of a higher amount of AMPs by allergic skin cells. Ultimately, this could cause the recurrent infections associated with atopic dermatitis.”

The abnormal immunological response of atopic dogs to common allergens could be due to a defect in the skin barrier or it could be the allergic response itself induces the skin abnormality, he says. “Because allergies are so common in dogs and frequently are associated with recurrent, antibiotic-resistant skin infections, it is important to iden-

tify ways to boost this ability to help them fight infection,” explains Dr. Santoro.

The study has led to new investigations looking at the mechanisms that differentiate healthy and atopic skin from an advanced microscopic and biochemical level. “We are optimistic that this work will eventually lead to a revolutionary treatment for atopic dermatitis,” he says.

TREATING DOGS WITH ATOPIC DERMATITIS

Managing atopic dermatitis requires a proactive approach. Dr. Santoro recommends that you see your veterinarian right away if you see signs of an allergy. “It is so important to have a complete examination so a veterinarian can assess your dog’s signs of an allergy,” he says.

Severely affected dogs may need allergy testing to detect the allergen(s) that causes a sensitivity once a veterinarian confirms a diagnosis of atopic dermatitis. Intradermal testing (IDT) is considered the goal standard for allergy testing. A veterinary dermatologist will inject allergens into the skin on one side of a dog’s body where the coat is shaved.

An alternative method is allergen-specific IgE serology (ASIS) or blood allergy testing. This method has advantages over IDT because no sedation is required, it is less traumatic without repeated injections, and there is less risk of interference from anti-inflammatory or antipruritic medications that a dog may be taking.

Both IDT and ASIS provide information that allows a veterinarian to formulate allergy shots to help reduce a dog’s clinical signs. Vaccine injections, or allergen-specific immunotherapy (ASIT), are made from allergens to which a dog tests positive.



Allergy shots help about 75 percent of dogs, though these dogs may need additional therapy during allergy season and may still get periodic infections. Besides immunotherapy, antifungals and antibiotics may be prescribed for yeast and bacterial infections for a dog's affected ears or sores. A steroid may be prescribed to reduce a dog's itchiness. However, allergy shots are considered better than long-term use of steroids or other drugs that suppress the immune system.

Taitt and Brix, Newton's Golden Retrievers, receive medications and lotions to help ease the effect of their allergies. "They both get antibody injections to reduce the itching and a daily lotion for their ears," she says. "These have done wonders for the inflammation caused from allergies and immediately calm their ears and skin."

Newton offers these management tips to help stay on top of allergies:

- Carry a damp cloth in an airtight bag when working with your dog outdoors, so you can wipe pollen off the paws, face and body before traveling home
- Frequently bathe your dog with a mild shampoo
- Regularly vacuum the house
- Make sure to feed a complete and balanced dog food for optimal nutrition
- Practice a routine exercise program to support overall health

Allergies can be challenging at first. "Once you know the specific allergens your dog is allergic to and what treatment works best, it becomes routine," Dr. Santoro says. "When you become familiar with signs of allergies, such as more-than-usual scratching, itching or rubbing, you will know it's time to call the veterinarian for assistance or a medication."

Although Taitt and Brix are retired from hunting tests, they are gearing up for fall hunting with a gusto.



"They love being outdoors and hunting," Newton says. "I enjoy my Golden Retrievers tremendously and feel so honored to chase titles on both ends of their names. Besides being structurally correct as the breed should be, they have this marvelous ability to perform as they were bred to do."

Successful management of allergies means you don't have to miss an opportunity to be outdoors having fun. Atopic dermatitis is a life-changing disease for dogs and the owners who love them. Being knowledgeable about the potential for fall allergies and recognizing the signs of a reaction will help you stay on top of your dog's allergy. ■

PURINA PUPPY CHOW ENHANCES NUTRITION FOR PUPPIES

During the first year of life, puppies need more protein than adult dogs and essential nutrients to support their growth and development. *Purina Puppy Chow* is launching three newly formulated formulas in October that provide 30 percent more protein than *Purina Dog Chow Complete Adult* dog food. The new formulas have added vitamin C, an antioxidant, and contain DHA, an essential omega-3 fatty acid, for brain and vision development. They also contain antioxidants to support a healthy immune system. Look for new packaging featuring children and puppies on these *Puppy Chow* formulas: Complete, Tender & Crunchy, and Natural. *Purina Puppy Chow* is sold at grocery stores, major pet food retailers and online.



LEARN MORE

PURINA DOG CHOW SALUTES VETERANS WITH SERVICE DOG SALUTE CAMPAIGN

Purina Dog Chow is donating up to \$500,000 to support Tony La Russa's Animal Rescue Foundation's (ARF) veteran's program. The campaign, called *Dog Chow Service Dog Salute*, will benefit ARF's expanding veterans program that matches veterans with rescue dogs whom they train to become their own service dogs. Here's how it works: Through Veteran's Day, Nov. 11, *Dog Chow* will donate \$1 for each unique share on Facebook of the BuzzFeed video featuring the powerful stories of veterans and rescue



dogs brought together by ARF (up to \$250,000). In addition, the brand will donate 5 cents from the sale of each specially marked bag of *Purina Dog Chow Complete Adult With Chicken* dog food (up to \$250,000) through Nov. 11. Located in Walnut Creek, California, ARF has rescued more than 38,000 dogs and cats since it began in 1991.

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