ALLERGENS AND YOUR PETS

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POLLENS, MOLDS & FUNGI, INSECTS

This brochure reviews some Pollens, Molds & Fungi, and Mites identified for evoking allergic reactions. Additionally, House Dust and Foods are also some of the culprits that may cause allergenic reactions.

Pollens are responsible for many of the allergic reactions in people and pets. However, since airborne pollens eventually settle to the ground, your pet receives a greater quantity of them. For example, dogs that walk, run, or roll on grass can get well coated with grass pollen. Tree and weed pollens that have settled to the ground cling to fur on pets. Once on the fur, the pollen can unintentionally work its way to settle on the skin of your pet causing a possible allergic reaction resulting in intense scratching (pruritus).

GRASSES

All grasses belong to the family, Gramineae. Within this family are around 9,000 grass species. Grasses cover over 20% of the world's land surface. Inhalation of grass pollens is a predominant cause of hypersensitive reactions. The peak pollination period for grasses extends from April to July in the northern hemisphere. Because of the generally cooler climate, this peak period for coastal areas is longer and extends from March to August. Please do not overlook the fact that grass pollens can cause allergic hypersensitive reactions in pets. With some exceptions, research has shown that most grass pollens are cross reactive. The most noted exception is Bermuda grass.

INDIVIDUAL GRASSES

Bahia Grass (Paspalum notatum): The genus Paspalum has nearly 400 species throughout the world. This grass is of allergenic significance in southern and western United States, South America and the West Indies. This drought resistant grass grows in warm climates and survives year round forming dense tufts. It produces pollen several times each year during growing spurts. Bahia is also known as "Florida lawn grass". If you have access to the Internet, search under "Florida lawn turf choices" to view a picture of Bahia.

Bermuda Grass (Cynodon dactylon): This is a creeping low-growing grass. It is the most common tropical lawn grass in the southern U.S. It was brought to North America from Africa in 1951 and developed into one of the major grass species used for lawns, golfing greens and fairways. Unfortunately, Bermuda is considered one of the most common allergy causing grasses.

June / Blue grass (Poa pratensis): This cool season grass is a major pollen producer throughout the USA and Canada. Because of its prevalence, it is one of the most important hay fever grasses. Its pollen is smaller than most other grasses. Being smaller it can be re-floated repeatedly by wind gusts allowing it to travel greater distances. Typical of most grass pollens, June grass yields its annual production of pollen in the spring.

Brome grass (Bromus spp.): Brome grass was introduced to North America in the 1880's and is cultivated in the northern latitudes of the United States and throughout Canada. Brome grass flowers from July through September.

Meadow fescue (Festuca elatior): This is an important member of the grass family. It is cultivated as a soil conserving plant. Fescue is an old Latin name meaning weedy grass. It is used for both hay and pasture feed as well as in lawn seed mixes.

Orchard / Cocksfoot Grass (Dactylis glomerata): The flowering heads are clustered in irregular, rounded shapes, coarse in texture, and resemble a thumb sticking out of the side of someone's hand. Widespread throughout the world, Orchard produces pollen that is well known for its hay fever causing properties in Europe and North America. It starts out in early spring and has tenacious re-growth after being grazed upon.

Redtop or Bentgrass (Agrostis alba): A sports turf grass, Redtop is one of the hardiest grasses. No other grass can adapt to so wide of climatic and soil conditions. Redtop is found growing from Canada to the Gulf Coast. Redtop pollen measures 25 to 31 microns in diameter. This plant generally grows to the height of 30 cm(12") and under ideal conditions can attain a height of 90 cm (35").

GRASSES (cont'd)

Sweet Vernal (Anthoxanthum odoratum): The name means yellow flower. It has a pleasant sweet scent reminiscent of the fragrance of fresh hay. Sweet Vernal pollinates in the spring and summer throughout Europe, Canada and northern United States.

Cultivated Wheat (Triticum aestivum): The major wheat growing areas of the world are USA, Canada, southern USSR, China, India, and Australia. Cultivated wheat provides the staple food for about one third of the world's population. Late spring and early summer months is when this grass pollinates.

Timothy grass (Phleum pratense): It is one of the world's most common grasses. It prefers to grow best in moderate temperature humid climates. Timothy means "marsh reed." It is native to North America. This grass is an important hay grass for horses and other grass eating animals. In terms of its antigenicity, Timothy grass pollen is well known by allergists to be cross-reactive with other grass pollens.

TREES

Trees account for much of the world's pollen. Cone-bearing trees (gymnosperms) evolved during the Devonian Period (410 million years ago). Pines, firs, cypresses, cedars, and junipers all shed prodigious quantities of pollen. The flower bearing trees (angiosperms) first appeared about 138 millions years ago during the Cretaceous Period. Angiosperms shed their leaves in Temperate Zone climates while in the warmer tropic climates their leaves tend to remain attached.

Trees are the oldest living plants in the world. Sequoia-dendron giganteum is the largest known living plant on earth found in Kings Canyon National Park, California. The oldest plant is the bristle-cone tree found interestingly enough less than 100 miles away in the White Mountain Range (not far from Bishop, California).

Alder (Alnus spp.): Belongs to the Betulaceae family. It is an angiosperm that sheds its leaves annually. Its flowers are called catkins which bloom in early spring. Alder is found growing throughout the northern hemisphere especially along creek and river banks.

Ash (Fraxinus spp.): Ash is native to North America and thrives equally well in Europe. Prior to its leaves appearing, the ash tree flowers in the spring displaying clusters of yellow-orange flowers. It is one of the last trees to show foliage and one of the first to drop its leaves in the fall.

Birch (Betula spp.): Being water proof, the birch tree was used by native Indians to build wigwams and canoes. Most birch trees flower in mid-spring producing large quantities of pollen. Scientific studies of the components within Birch pollen indicate the presence of potent hay fever causing antigens and a surprising association to oak trees for cross-reactivity.

Box Elder (Acer negundo): The genus Acer consists of more than 100 species which includes the maples and sycamore trees. Box Elder is a deciduous tree (sheds leaves annually) and flowers in early spring.

Cottonwood / Poplar (Populus spp.): This is a fast growing tree that is important to the paper and match stick industries. Cottonwood flowers in early spring producing pollen from reddish catkins that grow to 3" to 4" long. A high degree of cross-reactivity occurs between Cottonwood and Willow.

Hazelnut (Corylus americana): A deciduous tree-like shrub with several main stems. The first blooming occurs when the tree is nearing ten years old. The pollen develops in the late summer and is then released throughout late winter and early spring. It is one of the earliest blooming trees to cause an onset of pollinosis (hay fever).

Hickory / Pecan (Carya spp.): These native trees are commonly found in the southeastern U.S. They flower in early spring shedding considerable quantities of pollen.

TREES (cont'd)

Maple (Acer spp.): The typical maple leaf is palmately 5 lobed and often wide as it is long. The fruit of the maples consists of two sections known as "keys" and are wing-like and remain during winter. The species Acer rubrum (red maple) appears on the Canadian flag.

Mountain Cedar / Juniper (Juniperus sabinoides): From the juniper family which can live as long as 2,000 years. This relatively small tree is found throughout much of the Southwestern United States. Typical of junipers, Mountain Cedar has persistent, aromatic leaves and is a dioecious plant (male reproductive organs on one tree and female on another). Typically junipers flower in late winter and early spring. The flowering period of junipers accounts for a type of "winter hay fever".

Oak (Quercus spp.): Oak is a special tree in that it has been at the center of human society. Oak appears in all the literature of antiquity. There are around 20 common species of oak in the United States. Oak can be a terrific allergy problem throughout much of the world when it sheds its pollen from late spring through early summer.

Pine (Pinus spp.): Of the 100 different species included in the genus almost all are found in the northern hemisphere with 36 in North America. Most Pinus species produce pollen in early summer. Although pine pollen counts are usually very high during their peak dispersal period, the pollen is typically not a major hay fever contributor (unless, of course, the patient lives near a grove or forest of pine trees).

Sycamore / London Plane (Platanus spp.): The different species within the genus Platanaceae are highly cross-reactive to each other. It is a popular tree in cities because it tolerates smoke and dust where other trees do not do well under similar circumstances.

Willow (Salix spp.): Willow is one of the first flowering trees in early spring. Found throughout the United States in moist soils especially along creek beds.

WEEDS

Cocklebur (Xanthium spp.): An erect, branching annual green herb. It occurs in waste places, fields, flood plains and beaches. The burs (seedcase) are covered with many stiff shafts that are curled at the tip. Furry animals (esp. sheep) are magnets for these burs. This is Nature's apparent design to get the seeds transported to another location. Cocklebur flowers from summer to late fall.

Dandelion (Taraxacum spp.): A perennial herb with deeply toothed leaves. Dandelion can be very abundant in lawns and flower beds. It flowers in spring and summer, sometimes with a secondary flowering in autumn. The tender leaves are found in grocery shelves sold as an ingredient for making salads. Believe it or not, the roots can also be ground for a coffee substitute. Wine can be fermented from extracts of the flowers.

English Plantain (Plantago lanceolata): This is a perennial weed ranging in height from 6" to 14". It is normally found in moist meadows, grassy places, and near roads. English plantain is common in many areas of the Northern Temperate Zone and is considered a troublesome allergy pollen weed. Spring through late summer is its flowering period.

Kochia (Kochia scoparia): Also called Firebush. It grows into a small bush that turns reddish in autumn. Kochia flowers in midsummer and is a major contributor of pollen into the atmosphere particularly in the Great Plains and Great Basin states.

Lambs Quarters (Chenopodium album): Also called Goosefoot because of the shape of its leaves. Lamb's Quarters is an erect, annual herb that varies in overall size and is related to the spinach family. It is tolerant of salty soils and can be found in coastal areas or in open arid habitats. Lamb's Quarters flowers throughout the summer and fall.

Marsh Elder (Iva spp.): An annual weed that grows in wet, marshy areas. Marsh Elder flowers in late summer and fall. It is predominant in Texas, Louisiana, Mississippi, Florida, Oklahoma, and Nebraska. March Elder is cross-reactive with ragweed.

WEEDS (cont'd)

Mugwort (Artemisia spp.): This is a coarse perennial weed that is found in flood plains, waste places, roadsides, and sometimes near shores. Mugwort is randomly distributed in the southwest and throughout most of the Central Valley of California. Mugwort flowers during late summer and early fall.

Pigweed (Amaranthus spp.): The flowers are greenish-gray and bristle-like. Pigweed was first used by American Indians to make flour and drinks. Most pigweeds flower in summer and fall.

Ragweed (Most Ragweeds are of the genus Ambrosia spp.) The term "hay fever" is often attributed to pollen symptoms caused by ragweed. Ragweed is found abundantly in the midwest, eastern, and the southern states. It is not frequently seen in the southwest and rare indeed in the northwest. Ragweed flowers in late summer and autumn. All species of ragweed can contribute to hay fever.

Sheep Sorrel (Rumex acetosella): This is a low growing perennial weed. It grows in rocky soils, grasslands, and roadsides flowering for most of the summer. In early summer it creates a delicate reddish tinge in meadows. Sheep Sorrel is often a cause of significant allergenic reactions.

Russian Thistle (Salsola pestifer): Although it can be found on sandy shores, it is most commonly seen in disturbed agricultural fields and arid soils. This plant is ubiquitous throughout the southwest and most of California. It is considered a major cause of allergic rhinitis in humans. Russian Thistle pollinates in late summer and fall.

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Sagebrush (Artemisia spp.): Very prominent in western United States, is a substantial ground cover in poor, arid soils and waste fields. Sagebrush is cross reactive with other Artemisia species such as Mugwort and Wormwood.

Wormwood (Artemisia absinthium): Drought resistant perennial plant that exhibits small yellow flowers in the late summer.

MOLDS, FUNGI & YEAST

Molds, Fungi and Yeast are of allergic significance year-round. These life forms are simply ubiquitous. While there are some seasonal variations and certain peak periods, most molds survive indoor and outdoors throughout the year. Mold spores easily and quickly establish new colonies making them virtually impossible to eradicate.

Including pollen grains, fungal spores are more abundant than any other air-borne particles found in the atmosphere. Also, spores are smaller than pollen grains. Many spore species are found in soil and plant debris and get picked up by your pet inadvertently. Molds reach peak concentrations following a rain shower. Spore dispersal typically increases during the afternoon hours.

Molds, fungi, and yeast can exist on the fur and skin on your pet. Pets that lick their paws and scratch themselves provide a warm, moist suitable environment for spore growth.

Alternaria: Grows on organic debris in the soil. An airborne fungus that is a parasite to leaves, stems, flowers and fruits of many vegetables, cereal grains and other plants. Alternaria spores are prevalent throughout the year especially from late spring through fall. Of all the molds, Alternaria is considered the most clinically skin reactive airborne mold.

Aspergillus: This mold can be detected in fertile soil, decaying vegetable matter, and flour. It is routinely seen in houses, basements, bedding, house dust, and raw textile materials. Aspergillus is at peak concentrations in autumn and winter. It colonizes on decaying vegetable matter, plant leaves, uncooked fruit and textiles.

Rhizopus: In the out-of-doors it is observed on organic soil debris. Inside, Rhizopus can be found on cured meats, root vegetables and bakery goods.

Mucor: This saprophytic mold is found in leaf litter, organic debris and on animal waste. Atmospheric spore levels tend to be low.

MOLDS, FUNGI & YEAST (cont'd)

Penicillium notatum: There are about 200 species of Penicillium. This mold is seen in cultures of soil, fruits, breads, cheeses and other foods. Penicillium produces dusty green colonies and dominates in temperate soils where spores are easily released into the atmosphere. It reaches peak concentrations in winter and spring. Penicillium levels are relatively high indoors during winter. It is a major cause of indoor mold allergy.

Bipolaris (Helminthosporium): This mold thrives in hot, humid weather and peaks its spore production in early spring. It usually infests grass and can infest palm trees. The indication for infected palm trees are reddish-brown oval spots on the fronds (leaves).

Botrytis: These spores peak outdoors between June / July and September / October. It is a woolly, gray mold that grows on damp, decaying vegetation. Botrytis is found virtually everywhere plants grow. It can grow on many different plants and survives well in the greenhouse. Spores are released when it rains or during house plant watering.

Cladosporium (Hormodendrum): The genus Cladosporium with over 30 different species has the widest distribution of all molds throughout the world, especially the southern United States. Frequently found in elevated levels in water damaged environments. Cladosporium appears gray to black or very dark green and can have a powdery appearance. Can also be found on spoiled foods.

Fusarium: Fruit trees and tomato plants are susceptible to Fusarium wilt. Outdoors, Fusarium appears in the spring and continues through fall. Fusarium mold can be found indoors on stored fruits and vegetables such as cucumbers, tomatoes, and potatoes.

Candida albicans: Is a simple yeast that proliferates on the skin. It has been known to produce itself profusely after the pet has been administered antibiotics.

MOLDS, FUNGI & YEAST (cont'd)

Trichophyton: Is a fungus that infects skin, hair and toenails of both people and pets. Trichophyton and Microsporium are also known as "ringworm". Trichophyton fungus lives on dead skin tissues, hair, and nails. In humans, a link with asthma has been made to Trichophyton toenail fungus.

Epicoccum: Grows in warm climates especially in grasslands. It colonizes on decaying vegetable matter, plant leaves, uncooked fruit and textiles. Peak concentrations are in the summer.

Stemphylium: Is parasitic to leaves and stems of vegetable crops and can be found on decaying plant material, damp paper, canvas and cotton fabric. Spores are found mainly during the daytime in the summer months.

Trichoderma: Recently, Trichoderma has recognition of being a "good" fungus. Commercially available products contain live Trichoderma to promote plant growth. Trichoderma is sometimes applied to newly-seeded sod and turf areas as a biocontrol of disease and harmful fungi, reducing the use of manufactured fertilizers. Trichoderma invades other fungus and eventually collapses them.

DUST MITES

Dust Mites: Mites have a life cycle of about 2 to 4 months. They live in house dust and thrive especially in high humidity. Upholstered furniture, mattresses and carpeting are natural habitats for mites. Mites feed on human and animal dander. Mites are practically impossible to eliminate. Killing mites with pesticides merely results in dead mites which is also a potent allergenic source.

The miniscule mite feces is the prime agent that elicits allergic reactions to the mite. The number of live mites generally increases in a home from August through November. Per square foot, more mites are found on the surface of a mattress than on the floor below.

OTHER ALLERGENS

Flea: Flea hypersensitivity is due to the protein material in flea saliva, waste, and eggs. Fleas are the most common external parasite of companion animals and are an important cause of skin disease. There are approximately 1,500 species of fleas. A symptom of flea bite hypersensitivity is an itchy and crusted dermatitis in animals that have become sensitive to the antigenic proteins in fleas. It is by far the most common allergic skin disease in dogs and cats.

Is Your Pet Allergic To You?

Human Hair: Many people are allergic to animals and many animals are allergic to people! "One person typically produces 5 grams of dander/week. It stands to reason pets are exposed to high concentrations of this allergen.

Wool: This can be an irritating substance and often contains dusts and dander.

Cotton: The proteinaceous material from the cotton seeds can contaminate inexpensive cotton stuffing and cause allergic symptoms.

KAPOK: The seed hair from the kapok tree is sometimes used as stuffing for cushions and furniture. As the product containing kapok ages, the allergenicity increases due to biological deterioration and dust contamination.

ORRIS ROOT: Is the root of a specific type of Iris plant that is dried and ground. It is used in making potpourri to sustain color and fragrance.

JUTE: Belongs to the family Tiliaceae. The two species are Corchorus capsularis and Corchorus plitorius. Dried jute fibers, soft and yellowish-white, are used to make low-grade twine, burlap, and cheap varieties of paper.

SISAL: Plant fiber used in the manufacturing of rope

House Dust: House dust is a varied mixture of potentially allergenic materials. It may contain fibers from different types of fabrics, stuffing from pillows and mattresses, feathers, dander from cats, dogs, and other animals, bacteria, mold and fungus spores (especially in damp areas), food particles, bits of plants and insects, and other "odd" allergens found in an individual home. House dust also contains the microscopic mite. Mites, which live in bedding, upholstered furniture, and carpets, thrive in summer and die in winter. In a warm, humid house, however, they continue to thrive even in the coldest months. The particles seen floating in a shaft of sunlight include dead dust mites and their waste-products. These waste-products, which are proteins, actually provoke the allergic reaction.

PET CARE IDEAS TO REDUCE ALLERGEN EXPOSURE

Frequent washing with a hypoallergenic shampoo (follow instructions on the bottle) will remove most pollen and mold from your pet's skin and fur. Although temporary, it is something that is very important to do. Furthermore, pets that are not bathed regularly will carry around pollen and mold and shake it off everywhere they go.

Outdoors:

- On windy days and during peak pollination times, keep your pet indoors
- Keep your pet off wet grass.
- Keep your pet away from piles of leaves, grass cuttings, and rubbish.
- Keep your pet from running in fields.
- Keep your pet indoors when mowing grass, raking leaves or watering plants and lawns.

Indoors:

- Keep your pet's bedding and surrounding area clean.
- Use a disinfectant (when your pet is not around).
- Wash bedding in hot water and dry completely.
- Keep your pet away from basements, cellars, bathrooms, laundry rooms, and the refrigerator.
- Keep indoor areas dry.
- Use a dehumidifier or air conditioning.
- Keep your pet off carpets, beds, and upholstered furniture.
- Avoid "dusty" cans or bags of pet food.
- Do not give your pet leftover human food from the refrigerator

A Word About Cat and Dog FOOD ALLERGIES

Food hypersensitivity can occur in conjunction with other allergic conditions and can commence at any time of the year. Dogs have cutaneous (skin) signs that may include generalized pruritus with or without lesions (scratching with or without hot spots), and urticaria (hives).

With **CATS**, the more common signs of food allergy are facial pruritus or miliary dermatitis. Food hypersensitivity can affect the entire animal.

DOGS with food hypersensitivity do not normally respond well to glucocorticoid therapy as they usually do for other types of allergies.

The recommended treatment of food hypersensitivity is dietary control. Try feeding only hypoallergenic prescription food or only certain home cooked foods. Food allergy treatment usually takes at least five weeks before a positive response is seen. Regardless, the best rule to remember is that it is always best to consult with your veterinarian about your pet's health.

www.nelcovet.com
154 Brook Ave., Deer Park, NY 11729
800 541-0790