

Ingredients and foods associated with adverse reactions in dogs and cats

A wide variety of foods and food ingredients are implicated in animals with adverse food reactions; however, there is a need to document what foods and ingredients have been shown definitely to cause adverse reactions. The last summary of foods and food ingredients reported in the veterinary medical literature to cause adverse reactions in dogs and cats was published over 10 years ago.¹ This letter includes a review of more recent studies in dogs, which was added to the previously published data. Literature was searched using PubMed.gov and direct access to abstracts and data presented at international veterinary dermatology meetings.

Adverse food reactions in dogs

Nineteen different studies or case reports, representing a total of 330 dogs, have described cutaneous lesions associated with adverse reactions to specific foods or ingredients.^{2, S1–S18} These studies have reported findings from a wide geographical area, including the USA, several countries in Europe, Australia and Japan. The data are too sparse to determine whether changes in adverse food reactions have occurred over time, so the information includes all reports in the veterinary medical literature over a 45 year time frame. Although no specific analysis was performed, it appears that adverse reactions to specific foods or ingredients do not vary tremendously between geographical areas.

In these studies, adverse reactions to beef, dairy products, chicken and wheat have accounted for over three-quarters (78%) of all the reported cases in dogs (Table 1). Adverse reactions to chicken egg, soy, lamb, pork, fish and corn were reported much less frequently, while reactions to rice and duck were rare. These data may represent the true prevalence of adverse reactions in the general canine population or merely reflect those foods and ingredients that were tested by the authors of these reports. Nevertheless, these data suggest that most adverse food reactions are to only a small number of foods or ingredients in commercial or homemade diets. Clearly, more data are needed. Veterinary dermatologists and others are encouraged to compile and report a larger number of dogs with adverse reactions to specific foods or ingredients. Ingredients aside, specific food allergens reported from *in vitro* studies in dogs include chicken serum albumin, bovine serum albumin, bovine IgG, ovine IgG, muscle phosphoglucomutase and two soy proteins.^{3–6}

Table 1. Foods or food ingredients reported to cause adverse reactions in dogs (330 cases)

Beef	107
Dairy	59
Chicken	50
Wheat	42
Chicken egg	24
Soy	18
Lamb	16
Pork	14
Fish	12
Corn	10
Turkey	6
Rice	5
Duck	2

Table 2. Foods or food ingredients reported to cause adverse reactions in cats (56 cases)

Beef	16
Dairy	16
Fish	13
Chicken	4
Corn gluten/corn	4
Lamb	4
Wheat	3
Chicken egg	2

Adverse food reactions in cats

In cats only 10 different studies, representing a total of 56 animals, have described cutaneous lesions, gastrointestinal signs, or both, associated with adverse reactions to specific foods or ingredients.^{2, S19–S26} None of these reports is <10 years old. These studies also give findings from a wide geographical area, including the USA, two countries in Europe (UK and France), New Zealand and Japan. In these studies, adverse reactions to beef, dairy products and fish accounted for nearly 90% of all the reported cases in cats (Table 2). Adverse reactions to animal protein sources in cats were reported to cause primarily cutaneous signs or a combination of cutaneous and gastrointestinal signs. Conversely, wheat and corn mainly caused clinical signs of gastrointestinal disease. To my knowledge, no specific food allergens have been identified in cats. This paucity of data shows a clear need to document further the foods and ingredients that cause food allergy or food intolerance in cats.

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Conflict of Interest

The author is retired from Hill's Pet Nutrition, Inc., USA.

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