

The Pollen

Issue N°7 - Pollen - Food Allergy

It is well known that patients can be allergic to both foods and/or pollen, but did you know that some patients can react to foods that they never reacted to before because of a commonality between that food and a pollen that they may be allergic or sensitive to? In this issue of The Pollen, we'll look into this interesting case of pollen allergies causing symptoms after certain foods are ingested.

This phenomenon goes by a couple of names, **Oral Allergy Syndrome** and **Pollen-Food Allergy (PFA)**. Although these terms are sometimes used interchangeably, there are differences between the two, and in this article we will focus on PFA. PFA can be defined by symptoms that appear shortly following the ingestion of any food in pollen allergic patients, generally associated with the oropharyngeal mucosa such as pruritus or angioedema of the lips, tongue, palate, ears, and throat, but may also be systemic.¹

PFA is believed to be caused by homologous (having the same relation, relative position, or structure) proteins located on both the pollen and food ingested. The reason that most symptoms are limited to the mouth and throat is that these homologous proteins tend to be heat sensitive and will denature once they undergo digestion.²

It is estimated that only 5% of children and 8% of adults with pollen allergies in the United States exhibit PFA.²

The table shows the most common PFA relationships as noted in the literature.

Foods	Tree		Grass	Weeds	
	Birch	Cedar	Nonspecific	Mugwort	Ragweed
Aniseed				X	
Apple	X	X			
Apricot	X				
Banana					X
Bell Pepper		X			
Broccoli				X	
Cantaloupe				X	X
Caraway Seed				X	
Carrot	X		X	X	
Cauliflower				X	
Celery	X		X	X	
Chamomile				X	
Cherry	X	X			
Chicory	X				
Coriander				X	
Fennel				X	
Fig	X		X		
Hazelnut	X				
Honeydew					X
Jackfruit	X				
Kiwi		X			
Leek				X	
Mango				X	
Melon					X
Mustard				X	
Onion				X	
Paprika		X		X	
Parsley	X			X	
Peach	X			X	
Peanut	X				
Pear	X				
Potato	X				
Plum	X				
Tomato		X			
Watermelon					X
Zucchini					X

Note: SCIT has the potential to desensitize one to OAS, giving the patient relief while on IT, but this benefit doesn't seem to be a long term benefit like aeroallergen relief is.³

1. Fernández-Rivas M, Benito C, González-Mancebo E, et al. Allergies to fruits and vegetables. *Pediatr Allergy Immunol* 2008; 19: 675–681.
2. Maeda N, Inomata N, Morita A, et al. Correlation of oral allergy syndrome due to plant-derived foods with pollen sensitization in Japan. *Ann Allergy Asthma Immunol*. 2010; 104: 205–210.
3. Webber CM, England RW. Oral allergy syndrome: a clinical, diagnostic, and therapeutic challenge. *Ann Allergy Asthma Immunol*. 2010; 104: 101–108.

