

# Factors influencing the susceptibility to, and characteristics of kiwi fruit allergy

Area of research interest: [Food hypersensitivity](#)

Study duration: 2001-04-01

Planned completion: 1 September 2003

Project code: T07025

Conducted by: University of Southampton

## Background

Kiwi fruit allergy is increasing in frequency but there is very little information on the characteristics of this relatively novel type of food allergy. This study will aim to describe the clinical characteristics of allergy to kiwi in adults and children.

## Research Approach

A questionnaire-based study of 276 subjects with self-reported allergy to kiwi fruit will be used to describe the characteristics of kiwi fruit allergy in adults and children in the UK. The study questionnaire will be validated by comparison with clinical investigation (skin prick testing and blind oral food challenge).

## Results

The study aimed to describe the clinical features of allergy in people with self-reported kiwi fruit allergy, and to evaluate methods of clinical investigations for kiwi fruit allergy. It also assessed the co-existence of other allergies in people with kiwi fruit allergy and examined the influence of age on this allergy. Finally it intended to compare the allergic effects of green kiwi fruit with the new Zespri™ Gold.

The age of people in the study at the time of their first reaction ranged from 4 months to 71 years. After kiwi fruit was first introduced into the diet, allergic reactions were seen predominantly in adults but this study shows that young children are now reporting kiwi allergy. It was seen that young children with the allergy usually react on their first known exposure and 40% of those reacting have severe reactions. Most of the people affected suffered localised oral reactions, i.e. tingling of the mouth and throat, sore mouth, swelling of lips etc. People who had severe reactions the first time they had kiwi fruit were likely to continue to have severe symptoms on subsequent reactions. If the first reaction was mild, future reactions were usually mild, although a few people went on to have more severe reactions.

Those who develop kiwi fruit allergy, particularly children, commonly have numerous other allergies. 9% of the study group had an allergy to latex. Kiwi allergy is thought to be associated with other allergies because kiwi fruit contains a protein that is very similar to others found in other fruits, for example avocado, a process known as cross-reactivity.

Reactions to allergens not known to cross react with kiwi fruit (i.e. that don't have similar proteins) were also common in this study. Commonly reported allergies in this study include peanuts, tree nuts, milk, egg and grass pollen. 35% of people in the group being investigated had asthma, eczema or hay fever. Children under the age of 5 years with kiwi allergy were particularly likely to

be allergic to other triggers. 90% of them had been treated for asthma, eczema or hay fever.

The group found that the current blood test used as an allergy test for kiwi by GPs and allergy clinics in the UK to be very poor. Five people with allergy to green kiwi fruit were also investigated with respect to Zespri Gold, a new variety of kiwi fruit. Four of them were allergic to the new fruit.

## **Additional Info**

T07025 was the pilot study for T07038 - see both final reports below

## **Dissemination**

### **Publications**

1. Lucas JS, Grimshaw KE, Collins K, Warner JO, Hourihane JO. (2004). Kiwi fruit is a significant allergen and is associated with differing patterns of reactivity in children and adults. *Clin Exp Allergy*. 34(7):1115-21.

### **Abstracts and presentations**

1. JSA Lucas, K Collins, S Bansal, JO Warner, J O'B Hourihane. The differences between kiwi fruit allergy in children and adults. Presented At EAACI, Paris June 2003.
2. JSA Lucas, K Grimshaw, K Collins, JO Warner, J O'B Hourihane. Clinical investigation of kiwi fruit allergy. Submitted to AAAAI, San Francisco 2004.
3. JSA Lucas, SA Lewis, JO Warner, J O'B Hourihane. The differences in allergenicity of green and gold kiwi fruit. Planned to submit for AAAAI, San Francisco 2004.

## **Research report**

### **England, Northern Ireland and Wales**

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