

Allergen-free apple research

An apple with a reduced amount of the protein Mal d 1, which is known to cause allergic reactions, has been developed by scientists in Sweden.

Mal d 1 is similar to the protein found in birch pollen, a common cause for allergy. A substantial part of the population in Northern Europe suffers from birch pollen allergy, and most of them also show reactions towards certain plant-derived food, such as apples, strawberries, carrots, celery and nuts.

In Sweden, up to 90 per cent of birch pollen allergic patients are sensitised to apples, with symptoms like itching and swelling of lips, tongue and throat after ingestion. In total, an estimated 4 per cent of adults and 8 per cent of children in the EU suffer from food allergies, according to the European Federation of Allergy and Airways Diseases Patients' Associations.

The success of the department of crop science at SLU in Bålgård, Southern Sweden, in developing an allergen-free apple, will be of great interest to the growing allergen-free food and beverage market.

The apple is expected to reach the consumer market in four to five years. "First it must be investigated where the best conditions for growing the new apple can be found. The market for the new apple will also be investigated", says Professor Hilde Nybom, head of research at Bålgård.

Previous studies have shown that commonly used apple cultivars like Granny Smith, Golden Delicious and Cox Orange are highly allergenic, containing high levels of Mal d 1, whereas some local cultivars like Gloster, Jamba and Belle de Boskoop appear to be low-allergenic. Professor Nybom claims that the allergen-free apple, which so far has no name, tastes better and is more beautiful than the apple Gloster, which so far is the only apple variety that can be offered to people with allergies.