



# Gluten-fed insects safe to eat

**Do insects have gluten if you rear them on a substrate containing gluten? Research by Wageningen Food Safety Research (WFSR) shows that they do, though the chance of an allergic reaction in anyone eating the insects is tiny.**

‘Insect farmers currently use substrates that are also allowed to be used as feed for other animals such as chickens,’ says researcher Elise Hoek (WFSR). ‘But we also want to be able to rear insects using waste streams, and that raises questions about food safety.’

One such question is whether allergens in the waste-stream substrates end up in the insects. ‘Insects are reared on a substrate that they feed on,’ explains Hoek. ‘The waste stream might contain wheat or milk proteins. When you harvest the insects, their intestines still contain the substrate you grew them on.’

A group of WFSR researchers studied how much of the allergens can be found in the substrate, how much ends up in the insects and whether that could lead to an allergic reaction. That is because while in most animals you remove the gastro-

intestinal tract and only eat the flesh, in insects you eat or process the entire animal. In this study, the researchers looked at five waste streams, testing

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for the presence of milk proteins and wheat. They also grew two different insect species on the various waste streams. Their conclusion was that hardly any trace of the allergens in the waste streams is found in the insects.

## Low concentrations

Hoek: ‘We don’t expect anyone to get an allergic reaction from this. That means it won’t be necessary to put the insects on a fast to empty the gastrointestinal tract. Anyway, insects are not usually eaten whole in the West; they are processed to be used in other products. So you only ever consume small amounts.’ DV