

No evidence to support 'organic is best'

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New research in the latest issue of the Society of Chemical Industry's (SCI) *Journal of the Science of Food and Agriculture* shows there is no evidence to support the argument that organic food is better than food grown with the use of pesticides and chemicals

Many people pay more than a third more for organic food in the belief that it has more nutritional content than food grown with pesticides and chemicals.

But the research by Dr Susanne Bügel and colleagues from the Department of Human Nutrition, University of Copenhagen, shows there is no clear evidence to back this up.

In the first study ever to look at retention of minerals and trace elements, animals were fed a diet consisting of crops grown using three different cultivation methods in two seasons.

The study looked at the following crops – carrots, kale, mature peas, apples and potatoes – staple ingredients that can be found in most families' shopping list.

The first cultivation method consisted of growing the vegetables on soil which had a low input of nutrients using animal manure and no pesticides except for one organically approved product on kale only.

The second method involved applying a low input of nutrients using animal manure, combined with use of pesticides, as much as allowed by

regulation.

Finally, the third method comprised a combination of a high input of nutrients through mineral fertilisers and pesticides as legally allowed.

The crops were grown on the same or similar soil on adjacent fields at the same time and so experienced the same weather conditions. All were harvested and treated at the same time. In the case of the organically grown vegetables, all were grown on established organic soil.

After harvest, results showed that there were no differences in the levels of major and trace contents in the fruit and vegetables grown using the three different methods.

Produce from the organically and conventionally grown crops were then fed to animals over a two year period and intake and excretion of various minerals and trace elements were measured. Once again, the results showed there was no difference in retention of the elements regardless of how the crops were grown.

Dr Bügel says: 'No systematic differences between cultivation systems representing organic and conventional production methods were found across the five crops so the study does not support the belief that organically grown foodstuffs generally contain more major and trace elements than conventionally grown foodstuffs.'

Dr Alan Baylis, honorary secretary of SCI's Bioresources Group, adds: 'Modern crop protection chemicals to control weeds, pests and diseases are extensively tested and stringently regulated, and once in the soil, mineral nutrients from natural or artificial fertilisers are chemically identical. Organic crops are often lower yielding and eating them is a lifestyle choice for those who can afford it.'

Source: Society of Chemical Industry

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