

Organic food has numerous nutritional benefits

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More secondary plant substances, more unsaturated fatty acids: organically produced food has numerous nutritional benefits. Organic food also contains hardly any pesticide and nitrate residues. Another bonus: fewer additives are used in processed foods. However, a healthy diet also depends on which foods we eat in which proportion.

Higher content of valuable nutrients and substances

Micronutrients such as vitamins and minerals are necessary for many metabolic processes in the human body. They are found in a variety of foods such as fruit, vegetables, pulses and animal products. Scientific studies show that organic and conventional production methods have an impact on the composition of food^[1-7]. Organic products have a higher content of nutrients and substances. For example, organically produced fruit and vegetables have higher levels of vitamin C^[2], fruit has higher levels of vitamins A and E^[4] and dairy products have higher levels of α -tocopherol (a form of vitamin E)^[5]. Higher levels of minerals have also been found in organic fruit, vegetables and cereals^[1]. Organic animal products in turn have higher levels of unsaturated fatty acids (omega-3 in dairy products and meat^[3,5,6], linoleic acid in dairy products^[6]). This can be attributed to the feeding of higher proportions of green fodder in organic farming^[5,6,8].

Secondary plant substances such as antioxidants are important for many metabolic processes and are found, for example, in vegetables, fruit, pulses, nuts and wholemeal products^[9]. In terms of the levels of secondary plant substances, organic foods consistently perform better. This is due to the fact that plants in organic farming protect themselves from diseases and pests with secondary plant substances by not using chemically synthesised pesticides^[3]. Higher total levels of phytochemicals have been measured in organically produced fruit and vegetables^[2]. Higher levels of antioxidants^[4] and phenol^[3] were also found in organic vegetables, fruit and cereals.

The differences mentioned are indications of the higher quality of organic food. However, it should be taken into account that the underlying studies usually only analysed the nutrients and substances from random samples^[8]. In addition, many cultivation factors such as soil composition, variety and climatic conditions have a decisive effect on the quality indicators of the end products.

Fewer residues and additives

The quality of food depends not only on its nutrient content, but also on its level of contaminants. As no chemically synthesised pesticides are used in organic farming, the detectable residues of these substances in organic food are significantly lower than in conventionally produced food^[3,4,10].

Organic farming also avoids the use of easily soluble, synthetic nitrogen fertilisers, which can lead to a higher uptake of nitrate in food. Instead, organic farmers fertilise primarily using organic nitrogen sources such as farm manure, compost and legumes, which contributes to lower nitrate uptake and therefore lower nitrate concentrations in food^[11].

Organic and conventional processing methods also differ in terms of the number of authorised additives. For example, up to six times fewer additives are authorised for the processing of organic food than in conventional food processing^[9]. A lower number of additives in processed foods can have a favourable effect on human health.

Organic consumers live and eat healthier

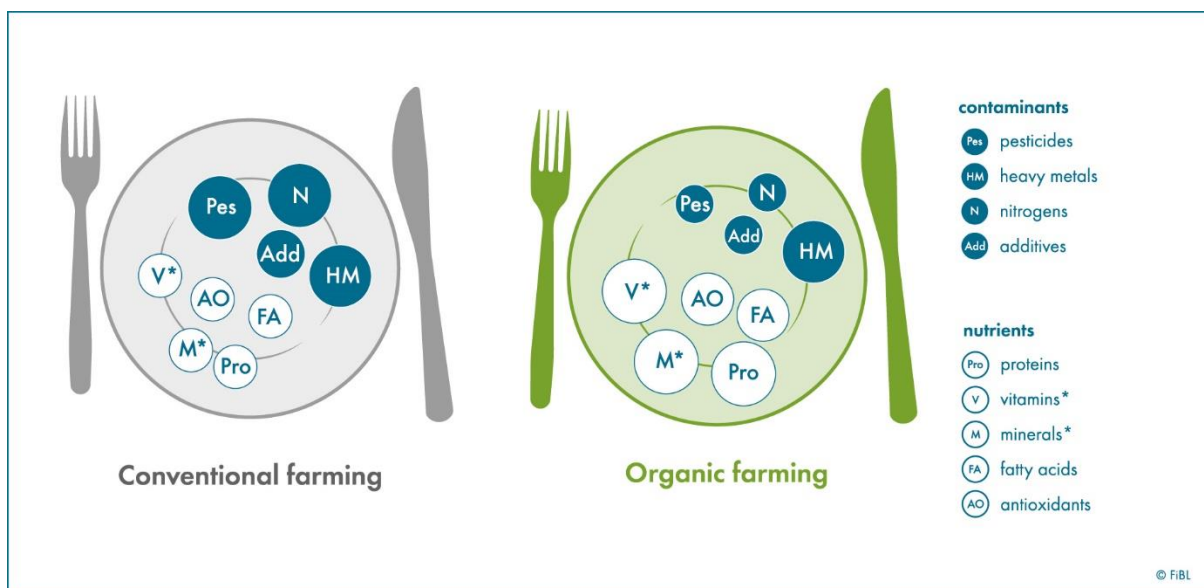
Although organically and conventionally produced foods differ in their composition, it has not yet been possible to provide clear empirical evidence of how these differences affect human health^[12]. It would be necessary to examine the effect of organic foods in isolation in observational nutritional studies. This

would require a disproportionate amount of effort. However, it is worth noting that organic consumers have dietary patterns and lifestyles that have a positive effect on health compared to non-organic consumers^[12,13]. People who consume more organic food also have a lower risk of obesity^[12]. The national dietary study also found clear differences between organic consumers and non-organic consumers in Germany. Organic consumers consumed more vegetables and fruit, fewer meat products and soda drinks than people with a purely conventional diet^[14]. However, it should be noted that consumers of organic products also had a higher income and higher school qualifications, generally felt healthier and were more active^[14].

Paying attention to diet as a whole

Scientific studies therefore show that organic food has numerous nutritional benefits and that comparisons between organic and non-organic products do not always sufficiently take into account all factors relevant to human health. The focus should therefore be on the diet as a whole. For example, a predominantly plant-based diet consisting mainly of vegetables and fruit, wholemeal products, pulses, nuts and seeds is recommended from a health perspective^[15]. Animal-based food should be consumed less frequently, although they play a role in providing individuals with a basic supply of important nutrients^[15]. A combination of predominantly plant-based foods and few animal-based foods forms a good foundation for a healthy diet.

Differences between organically and conventionally produced food



Many organic products contain higher levels of valuable nutrients and substances. In addition, organic products contain significantly fewer residues and additives. However, the effects of these differences on human health are difficult to prove unequivocally. It is also important to focus on the diet as a whole.

Literature and notes

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