

# Plant food supplements in the spotlight

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Natural food does not always mean safe food. EU-funded researchers have discovered that the compounds found in some botanicals and botanical preparations, such as plant food supplements, may be detrimental to one's health. The study is presented in the journal *Food and Nutrition Sciences*.

A past study found that alkenylbenzenes contribute to higher incidences of [liver cancer](#) in animals. In their latest study, researchers from Wageningen University in the Netherlands and Università degli Studi di Milano in Italy found that many plant [food supplements](#) levels of these compounds are so low that they are of no concern. However, there are some plant food supplements currently on shelves that contain alkenylbenzenes at levels comparable to those increasing cancer cases in

experimental tests. They suggest that improved regulation and quality control of plant food supplements containing alkenylbenzenes is needed.

Many Europeans use botanicals and botanical preparations such as plant food supplements. The researchers said the market volume for such products is growing. To get a better handle on understanding the safety of plant food supplements used in the EU, the researchers selected and assessed 30 botanical compounds in plant food supplements that could potentially play havoc with human [health](#). The main concern was to determine how these compounds affect genetic material and whether they are carcinogenic.

Most of these compounds belong to the group of the alkenylbenzenes or the group of pyrrolizidine alkaloids. Regulatory officials recognise how these [compounds](#) impact [human health](#). As a result, the use of pyrrolizidine alkaloid-containing botanicals in food and plant food supplements is prohibited in most EU Member States for precautionary health protection reasons. The alkenylbenzenes estragole, methyleugenol, safrole or beta-asarone as flavouring agents in food are also banned within the EU, but no restrictions have yet been made concerning the presence of alkenylbenzenes in plant food supplements.

The team assessed various plant food supplements containing basil, fennel, nutmeg, saffron, cinnamon or calamus, or their essential oils as the main ingredient. According to them, some of these products contain relatively high levels of alkenylbenzenes. The use of such plant food supplements could play a role in affecting human health, they suggest, adding that it is important that risk management actions be implemented.

The researchers noted that while more research is needed, better regulation and quality control of plant food supplements containing alkenylbenzenes are needed.

**More information:** Van den Berg, S. et al., 'Levels of Genotoxic and Carcinogenic Compounds in Plant Food Supplements and Associated Risk Assessment', *Food and Nutrition Sciences*, Vol. 2, No 9, 2011, pp. 989-1010.

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