

Rapeseed instead of soy burgers: Researchers identify a new source of protein for humans

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Rapeseed has the potential to replace soy as the best plant-based source of protein for humans. In a current study, nutrition scientists at the Martin Luther University Halle-Wittenberg (MLU), found that rapeseed protein consumption has comparable beneficial effects on human metabolism as soy protein. The glucose metabolism and satiety were even better. Another advantage: The proteins can be obtained from the by-products of rapeseed oil production. The study was published in the journal *Nutrients*.

For a balanced and [healthy diet](#), humans need protein. "It contains [essential amino acids](#) which can not be synthesized in the body," says Professor Gabriele Stangl from the Institute of Agricultural and Nutritional Sciences at MLU. Meat and fish are important sources of high-quality proteins. However, certain plants can also provide valuable proteins. "Soy is generally considered the best source of plant protein as it contains a particularly beneficial composition of amino acids," says Stangl.

Her team investigated whether rapeseed, which has a comparably beneficial composition of amino acids, could be an alternative to soy. Rapeseed also contains phytochemicals—[chemical compounds](#) produced by plants—which could have [beneficial effects](#) on health, says Stangl. "So far, only a few data on the effect of rapeseed protein intake in humans had been available," adds the scientist. In comparison to soy rapeseed has several other advantages: It is already being cultivated in Europe and the protein-rich by-products of the rapeseed oil production could be used as ingredients for new food products. These by-products are currently used exclusively for animal feed.

In a study with 20 participants, the team investigated the effect of ingested rapeseed and soy proteins on human metabolism. Before the interventions the participants were asked to document their diets for a few days. Then they were invited to eat a specifically prepared meal on three separate days: noodles with tomato sauce, that either contained no additional protein, or was enriched with soy or rapeseed protein. After the meal, blood was regularly drawn from the participants over a six-hour period. "By using this [study design](#), we were able to assess the acute metabolic response of each study participants to the dietary treatments." says Stangl.

The study showed: "The rapeseed protein induced comparable effects on metabolic parameters and cardiovascular risk factors as [soy protein](#). Rapeseed even produced a slightly more beneficial insulin response in the body," says nutritionist Christin Volk from MLU. Another benefit was that the participants had a longer feeling of satiety after eating the rapeseed protein. "To conclude, rapeseed appears to be a valuable alternative to soy in the human diet," says Volk.

The only drawback: "Rapeseed protein, in contrast to soy protein, has a mustard flavor," says Volk. Therefore, [rapeseed](#) is more suitable for the production of savory foods rather than sweet foods, explains the researcher.

More information: Christin Volk et al, Postprandial Metabolic Response to Rapeseed Protein in Healthy Subjects, *Nutrients* (2020). [DOI: 10.3390/nu12082270](#)

Provided by Martin-Luther-Universität Halle-Wittenberg

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