

Rye a better choice than wheat for weight loss

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Eating whole grain rye products instead of refined wheat alternatives can offer worthwhile health benefits. Researchers at Chalmers University of Technology, Sweden, recently published a study showing that people who ate high-fiber products made from whole grain rye lost more body fat and overall weight than those who ate corresponding products made

from refined wheat.

The new results have been published in the scientific journal *Clinical Nutrition*. It is the largest [study](#) yet designed to evaluate the effects of particular types of grains on [body weight](#) and [body fat](#), as well as the first study to focus specifically on rye.

The study included 242 overweight men and women between the ages of 30 and 70 who were randomly assigned carefully adjusted daily amounts of refined [wheat](#) or whole grain rye products with the same energy value. All participants also received the same general advice on healthy eating from a dietitian. The participants were examined at the start of the study, halfway through, and at twelve weeks, when the study ended.

"The results were clear—the participants who received rye products lost more [weight](#) overall, and their levels of body fat decreased compared to those who received wheat products," says Kia Nøhr Iversen, researcher at the Division of Food and Nutrition Science at Chalmers University of Technology, and lead author of the study, which forms part of her recently presented doctoral dissertation.

Although both the rye and wheat groups lost weight during the study, those who ate rye products lost an average of one kilogram more than those who ate wheat products, with the difference attributable to fat loss.

Opening up for more individualized diets

Different people can react to the same foods in different ways, depending on, for example, the particular bacteria present in the gut, and the way they break down. At the Division of Food and Nutrition Science at Chalmers University of Technology, research is underway into how diet can be better adapted to the individual level, providing precision nutritional advice to yield greater health benefits. The new study offers

unique data that can be used to further research in this area.

"Although we saw an overall difference in weight loss between the rye and the wheat group, there was also very large variation within those groups. Increasing our understanding of why different people respond differently to the same foods can pave the way for more specifically tailored diets based on individual needs. We are currently investigating whether certain specific bacteria in the intestine might be the explanation behind why some people lost more weight than others who were also on the rye diet," says Rikard Landberg, Professor of Food and Health at Chalmers University of Technology.

Link to appetite not established

Obesity and excess weight are among the biggest health challenges in the world and require many different measures. One idea is to develop foods that contribute to an increased feeling of fullness and have positive effects on metabolism.

Previous studies have observed that those who eat rye, which has a very high content of dietary fiber, feel more full than those who eat the corresponding amount of energy in the form of refined wheat. One of the purposes of this study was therefore to investigate this potential link between increased intake of rye and weight loss.

"But surprisingly, in this study, we actually never observed any difference in appetite. We think this may be simply because the method we used to measure appetite was not good enough. We are therefore working on evaluating and developing the method further," says Kia Nøhr Iversen.

In order for a food to be marketed with specific health claims, a series of rigorous studies must be carried out to prove the effect. These studies

are costly and represent a barrier to obtaining the scientific evidence needed, making it less attractive in turn for food producers to develop and market products that could contribute to reducing excess weight and obesity.

Simple advice for consumers

"A particularly positive aspect of our study is that the rye products we used are easily attainable in normal supermarkets in Scandinavia and most of Europe. Consumers can therefore act on the new results immediately. It does not require particular effort or dedication to have a diet rich in whole grain rye," says Kia Nøhr Iversen.

The researchers caution that there is more work needed before they can show in detail exactly what mechanisms determine why whole grain rye is good for weight loss at the individual level. But the results of the new study already demonstrate a causal link between rye intake and weight loss through fat reduction, and studies to determine the mechanisms behind this link are already under way.

"As we continue to look for the exact reasons why, our advice is to choose the rye bread instead of the sifted wheat bread," says Kia Nøhr Iversen.

More detailed info about the research

- The scientific article, "A hypocaloric diet rich in high fiber rye foods causes greater reduction in body weight and body fat than a diet rich in refined wheat: A parallel randomized controlled trial in adults with overweight and obesity (the RyeWeight study)," has been published in *Clinical Nutrition*. It was written by Kia Nøhr Iversen, Frida Carlsson, Agneta Andersson, Ulf

Risérus, Per M. Hellström and Rikard Landberg. The researchers are active at Chalmers University of Technology and Uppsala University.

- 242 males and females classified as overweight or obese, aged 30–70 years, were randomized to consume high fiber products made from whole grain rye or refined wheat products for 12 weeks, while adhering to a hypocaloric diet. They were examined at week 0, week 6 and week 12, with measurements taken including body weight and body composition, collection of blood samples and evaluation of subjective appetite.
- After 12 weeks the participants in the rye group had lost 1.08 kilo body weight and 0.54 percent body fat more than the wheat group. There were no consistent group differences on subjective appetite.
- The main funder of the research project is Formas. Two companies have contributed with products and support for certain analysis.

More information: Kia Nøhr Iversen et al, A hypocaloric diet rich in high fiber rye foods causes greater reduction in body weight and body fat than a diet rich in refined wheat: A parallel randomized controlled trial in adults with overweight and obesity (the RyeWeight study), *Clinical Nutrition ESPEN* (2021). [DOI: 10.1016/j.clnesp.2021.07.007](https://doi.org/10.1016/j.clnesp.2021.07.007)

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