

Soy and wheat proteins helpful for building aging muscles, but not as potent as animal protein

July 7 2020



These meals are examples of vegetarian meals that help build muscle proteins because they consist of a complementary and complete profile of all essential amino acids. Credit: Anita Bean

On a gram for gram basis, animal proteins are more effective than plant proteins in supporting the maintenance of skeletal muscle mass with advancing age, shows research presented this week at The Physiological

Society's virtual early career conference Future Physiology 2020.

The number of vegans in the UK has quadrupled since 2006, meaning that there are around 600,000 vegans in Great Britain. While we know plant-based diets are beneficial for the environment, we don't actually know how healthy these diets are for keeping muscles strong in [elderly people](#).

Scientists generally agree that the primary driver of muscle loss with age—at least in healthy individuals—is a reduction of muscle proteins being built from amino acids. These amino acids come from protein that we eat and are also formed when we exercise.

Oliver Witard of King's College London is presenting research at The Physiological Society's Future Physiology 2020 conference about soy and [wheat proteins](#) showing that a larger dose of these [plant proteins](#) is required to achieve a comparable response of building muscles.

Simply transitioning from an animal-based protein diet to a plant-based diet, without adjusting total protein intake, will likely be detrimental to muscle health during ageing. A more balanced and less extreme approach to changing dietary behaviour, meaning eating both animal and plant-based proteins, is best.

Witard and his colleagues conducted carefully controlled [laboratory studies](#) in human volunteers that involve the ingestion of plant compared with animal-based protein sources. To test changes in participants' muscles, they use several techniques including stable isotope methodology, blood sampling, and skeletal muscle biopsies to see how quickly the muscles were building up from [amino acids](#).

It's important to note that this research to date has only compared two plant-based protein sources, namely soy and wheat. The researchers in

this field will be conducting further research on other promising plant proteins such as oat, quinoa and maize.

Commenting on the research, Oliver Witard said:"This research challenges the broad viewpoint that plant proteins don't help build muscles as much as [animal protein](#) by highlighting the potential of alternative plant-based protein sources to maintain the size and quality of ageing muscles."

More information: static.physoc.org/app/uploads/..._me-and-abstracts.pdf

Provided by The Physiological Society

Citation: Soy and wheat proteins helpful for building aging muscles, but not as potent as animal protein (2020, July 7) retrieved 17 April 2024 from <https://medicalxpress.com/news/2020-07-soy-wheat-proteins-aging-muscles.html>

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