



THE EXPERT
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Green giant

FOOD FOR THOUGHT

Can you build muscle on a VEGAN DIET?

Laura Tilt answers one of the most contentious questions in the world of gains

Quiz any vegan on what they're constantly asked by meat eaters and veggies alike, and they'll say that 'where do you get your protein, though?' will be right up there with 'is it because of *Cowspiracy?*' and 'but, *cheese?*' Whether you've been vegan since before Beyoncé told you to, you're flirting with flexitarianism or you're wondering what to do when #meatfreemondays coincides with leg day, it pays to know how to fuel your gains the green way.

Building muscle effectively and healthily requires a few things, not least sufficient calorie intake and a strength training programme that involves lifting heavy. Protein, of course, plays a pivotal part in this process because it delivers the raw materials for muscle repair and new muscle growth. But does it make a difference whether your protein is coming from animals or plants?

The results of a 2017 study published in the *American Journal Of Clinical Nutrition* seemed to suggest that, when it comes to muscle mass – the weight of muscle in your body – plant proteins are just as good as animal proteins. Researchers looked at how the preferred protein source of study participants (3,000 adults) related to their muscle mass. Unsurprisingly, those with the highest protein intake had the most muscle mass. However, there was no link between muscle mass and the *type* of protein consumed – plant or animal. So when it comes to maintaining muscle mass, vegans turning to tofu, lentils and soy aren't at a disadvantage.

Right, so what about gains? Research (on men only, at this point) has found that animal proteins, such as whey, are more effective at switching on muscle manufacture after weight training than plant-based proteins, like soy. The reason? Animal proteins contain more leucine – a protein building block that drives new muscle

growth. As a rough guide, animal-based proteins provide 8-11% leucine, and plant proteins only 6-8%.

But, get enough leucine from your plant protein (2-3g per meal being the magic number), then it could rival animal sources. In one 2013 study, male college students were given 48g of either rice protein (3.8g leucine) or whey protein (5.5g leucine) after strength training sessions and both groups had similar gains in muscle mass.

Right now, we don't know whether the same results could apply to women, or how the gains compare long-term, but getting enough leucine post-workout is an important factor. If you're vegan, this probably means using a leucine supp, such as L Leucine (£4.99 for 250g, myprotein.com), which can be added to a vegan protein shake or a glass of water. You could always just eat more plant protein, but this might leave your plates heaving under the weight of your portions. You'd have to put away 200g cooked lentils to get your 2.5g leucine. Tag-teaming two or three plant proteins is a good strategy.

As for daily protein intake, the consensus is to aim for 1.2-2g protein per kilo of body weight if you want to gain muscle. That said, it's not *all* about the protein. Carbs reduce muscle breakdown and provide energy for tough sessions, so team protein with carbs and healthy fats, too. That way, as long as you get your leucine hit, you'll smash your swolo goals.

NO WHEY

We've crunched the numbers to see how vegan protein stacks up

SOY PROTEIN ISOLATE
 A 30g serving contains 2.5g leucine

VEGAN L-LEUCINE
 A 3g serving contains 3g leucine

RICE PROTEIN POWDER
 A 35g serving contains 2.7g leucine

OATS
 A 150g dry serving contains 2g leucine

LENTILS
 A 100g dry serving contains 1.8g leucine

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