

Increased flatulence from eating plant-based diet found to indicate healthier gut microbiome

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A team of researchers affiliated with a host of institutions across Spain has found that the increase in flatulence experienced by people switching

to a plant-based diet is an indication of a healthier gut microbiome. In their paper published in the journal *Nutrients*, the group describes experiments they conducted with healthy, male volunteers regarding diet, fecal sample size and flatulence.

It is widely known that switching from a fat or carbohydrate-based [diet](#) to one that features more vegetables results in more flatulence—particularly if the switch is to cruciferous vegetables. But as the researchers with this new effort have noted, little research has been done to learn more about the association between diet and flatulence.

To learn more about the impact of switching to a plant-based diet on digestion and the [gut biome](#), the researchers enlisted the assistance of 18 healthy, adult male volunteers. Each was asked to eat a western-style diet and then to switch to the plant-based Mediterranean diet for two weeks.

Over the study period, the volunteers were asked to count the number of times they defecated each day and to capture and weigh each stool sample. Each of the volunteers was also asked to count the number of times they passed gas. The volunteers were also asked to submit to randomized testing that involved measuring the amount of gas that was emitted during episodes of flatulence, using balloons.

The researchers found that the change in diet did not change the number of times the volunteers defecated each day—but it did change the amount of material discharged. The researchers found the plant-based diet doubled the stool size on average. The researchers note this was due to a huge increase in the mass of bacterial growth and excretion. The data also showed that the number of flatulence episodes increased by seven times per day on the plant-based diet—and each discharge had approximately 50% more gas. The researchers note this was due to fermenting of plant material in the gut.

The researchers suggest their experiments show that a plant-based diet promotes more healthy types of gut bacteria which leads to better overall gut health.

More information: Claudia Barber et al, Differential Effects of Western and Mediterranean-Type Diets on Gut Microbiota: A Metagenomics and Metabolomics Approach, *Nutrients* (2021). [DOI: 10.3390/nu13082638](https://doi.org/10.3390/nu13082638)

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