

# Plant-based meals improve insulin and incretin secretion in those with type 2 diabetes

February 27 2019

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A plant-based diet improves the secretion of insulin and incretin hormones in those with type 2 diabetes, according to [new research](#) published in *Nutrients*.

Researchers compared the effects of a plant-based meal to a meal containing meat on the hormone levels of a group of 20 men who have type 2 [diabetes](#) in a randomized crossover trial. The meals consisted of either a tofu-based veggie burger or a meat-based burger and contained the same amount of calories and ratio of macronutrients.

The results show that participants' postprandial secretion of insulin increased more after the plant-based meal than the meat-based meal. Secretion of incretin hormones, particularly glucagon-like-peptide 1 (GLP-1), also increased more after the vegan meal. Incretin hormones amplify the release of insulin after a meal and also help decrease blood glucose levels.

Beta-cell function parameters also improved after the vegan meal. Beta cells synthesize, store, and release insulin. Beta-cell function is typically diminished in those who have diabetes, and preserving [beta cells'](#) capacity to produce insulin is a cornerstone in the treatment of diabetes.

"With diabetes rates rising and [insulin](#) costs soaring, this study offers hope that a solution could be close at hand: the food on our plates," says

study author Hana Kahleova, M.D., Ph.D., director of clinical research at the Physicians Committee for Responsible Medicine. "The results add to the evidence that a plant-based diet should be considered a frontline treatment for type 2 diabetes."

A [previous study](#) found that a 16-week plant-based dietary intervention improves [insulin resistance](#) and beta-cell function in overweight adults. [Other studies](#) have shown that plant-based diets are effective in managing and even reversing type 2 diabetes and that those following a plant-based diet have approximately half the risk of developing diabetes, compared with non-vegetarians.

In the United States today, more than [114 million adults](#) have either diabetes or prediabetes.

**More information:** Hana Kahleova et al, A Plant-Based Meal Stimulates Incretin and Insulin Secretion More Than an Energy- and Macronutrient-Matched Standard Meal in Type 2 Diabetes: A Randomized Crossover Study, *Nutrients* (2019). [DOI: 10.3390/nu11030486](#)

Provided by Physicians Committee for Responsible Medicine

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