

# Spicing Up Your Meals to Build Your Gut Health

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✓ Fact Checked

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## STORY AT-A-GLANCE

- › Adding about 1 teaspoon of herbs and spices to your meals daily led to improvements in the gut microbiome after just four weeks, research from Penn State revealed
- › The blend of blend of herbs and spices evaluated included cinnamon, ginger, cumin, turmeric, rosemary, oregano, basil and thyme
- › After four weeks of consuming herbs and spices, diversity of gut bacteria increased in the study participants, particularly after three-fourths teaspoon- or 1.5-teaspoon daily doses
- › Decreased diversity in the gut microbiome is considered unhealthy and has been linked to chronic conditions such as obesity and Type 2 diabetes
- › Consuming a diet high in herbs and spices, including basil, thyme, cinnamon and turmeric, for four weeks was previously found to lower systolic blood pressure

Trillions of microorganisms live in your intestinal tract. Their makeup plays a profound role in your health, affecting everything from mental health<sup>1</sup> and heart disease<sup>2</sup> to obesity<sup>3</sup> and sleep problems.<sup>4</sup> What you eat is a key player in the health of your gut microbiome. A healthy diet helps create an optimal environment for beneficial gut bacteria, while decreasing pathogenic or disease-causing bacteria, fungi and yeast.

What may surprise you is how even minor dietary changes can make a significant difference in your gut health. Adding about 1 teaspoon of herbs and spices to your

meals daily led to improvements in the gut microbiome after just four weeks, research from Penn State revealed.<sup>5</sup>

## **Add Herbs and Spices to Meals to Boost Gut Health**

It's previously been found that consuming capsules of spices — specifically cinnamon, oregano, ginger, black pepper and cayenne pepper — favorably affected gut bacterial composition after two weeks.<sup>6</sup>

But the Penn State study, published in *The Journal of Nutrition*,<sup>7</sup> delved into how typical culinary exposure to herbs and spices affects your gut. It involved 54 adults at risk of cardiovascular disease who added a blend of herbs and spices, including cinnamon, ginger, cumin, turmeric, rosemary, oregano, basil and thyme, to a controlled diet. Three different doses — about one-eighth teaspoon per day, three-fourth teaspoon per day or 1.5 teaspoons per day — were evaluated.

After four weeks of consuming herbs and spices, diversity of gut bacteria increased in the study participants, particularly after the three-fourths-teaspoon or 1.5-teaspoon daily doses. This is a good thing, as decreased diversity in the gut microbiome is considered unhealthy and has been linked to chronic conditions such as obesity and Type 2 diabetes. In general, gut microbial diversity decreases with age.<sup>8</sup>

“Research has shown that people who have a lot of different microbes have better health, and a better diet, than those who don't have much bacterial diversity,” study author Penny Kris-Etherton, Evan Pugh University professor of nutritional sciences at Penn State said.<sup>9</sup>

Specifically, an increase in the Ruminococcaceae bacterial group, which are beneficial for immune function and liver metabolism,<sup>10</sup> was noted. Past research suggests enrichment of the Ruminococcaceae family may also suppress long-term weight gain and diet-induced obesity.<sup>11</sup> Enrichment of *Faecalibacterium* and *Agathobacter* genus was also noted. These groups are known to produce anti-inflammatory short-chain fatty acids (SCFAs), including butyrate and propionic acid.

SCFAs play a role in building the gut barrier, making it less permeable to disease-causing microorganisms.<sup>12</sup> The researchers explained that butyrate is the primary energy source for colonocytes (epithelial colon cells), which help shape the makeup of gut microbiota. “Colonocyte metabolism functions as a control switch, mediating a shift between homeostatic and dysbiotic communities,” researchers wrote in the journal *Science*.<sup>13</sup>

Further, butyrate “is essential for intestinal epithelium maintenance, barrier function, and regulation of cell turnover,” the Penn State researchers explained.<sup>14</sup> It’s also been shown to induce programmed cell death of colon cancer cells.<sup>15</sup> Considering adding herbs and spices to a meal is simple, flavorful and great for your gut, there’s really no downside to doing it. Kris-Etherton added:<sup>16</sup>

*“It’s such a simple thing that people can do. The average American diet is far from ideal, so I think everyone could benefit by adding herbs and spices ... flavoring foods in a way that makes them palatable and, in fact, delicious! Taste is really a top criterion for why people choose the foods they do.”*

## **Herbs and Spices Support Health in Many Ways**

The beauty of using herbs and spices in your meals is that they support health from various angles. They’ll not only boost your gut health, for instance, but will also support healthy blood pressure. Prior research by Kris-Etherton and colleagues evaluated mixed herbs and spices, including basil, thyme, cinnamon and turmeric, consumed as part of a typical U.S. diet against the risk factors for heart disease.

The researchers discovered those consuming a diet high in herbs and spices for four weeks had lower systolic blood pressure than those who consumed the diet with medium or low-dose herbs and spices.<sup>17</sup> What’s more, they noted, “Intake of a single meal containing herbs and spices attenuates postprandial lipemia, hyperglycemia, and oxidative stress, and improves endothelial function.”<sup>18</sup>

It's likely that the greater the variety of herbs and spices you consume, the more benefits you'll reap. Take cumin, for example. The plant has anticancer and antidiabetes properties, which are thought to be due to its active components, including terpenes, phenols and flavonoids.<sup>19</sup>

In fact, cumin has been found to work better than the antidiabetes drug glibenclamide in treating diabetic rats.<sup>20</sup> There's even research showing cumin could aid in weight loss. When overweight participants took cumin for eight weeks, they lost a similar amount of weight as those taking the weight loss drug orlistat120 – and even experienced the additional benefit of improved insulin metabolism.<sup>21</sup>

Plant scientists from Purdue University in West Lafayette, Indiana, have also identified compounds in oregano and thyme that suppress tumor development, noting that this is just one of their many benefits:<sup>22</sup>

*“Thymol and carvacrol are phenolic monoterpenes found in thyme, oregano, and several other species of the Lamiaceae. Long valued for their smell and taste, these substances also have antibacterial and anti-spasmodic properties. They are also suggested to be precursors of thymohydroquinone and thymoquinone, monoterpenes with anti-inflammatory, antioxidant, and antitumor activities.”*

Turmeric is another powerhouse spice, and is in the same botanical family as ginger, another powerful spice with proven, health-beneficial compounds. One of turmeric's active compounds, curcumin, may help patients with chronic heart failure by increasing skeletal muscle strength, endurance and exercise capacity,<sup>23</sup> among other benefits.

Meanwhile, there's also some evidence that suggests black pepper plays a role in gut health by altering the makeup of intestinal microbiota and possibly acting as a prebiotic.<sup>24</sup>

## **Fermented Foods Increase Microbiome Diversity**

In addition to herbs and spices, consuming fermented foods is another solid strategy for optimizing the health of your gut microbiome. A study assigned 36 adults to consume a diet high in fermented foods or high-fiber foods for 10 weeks. Those consuming fermented foods had an increase in microbiome diversity as well as decreases in markers of inflammation.<sup>25</sup>

“Fermented foods may be valuable in countering the decreased microbiome diversity and increased inflammation pervasive in industrialized society,” the study concluded.<sup>26</sup> Effects were strongest in those consuming larger servings of the fermented foods, such as yogurt, kefir and fermented vegetables.

Study author Justin Sonnenburg, with Stanford School of Medicine, noted, “This is a stunning finding. It provides one of the first examples of how a simple change in diet can reproducibly remodel the microbiota across a cohort of healthy adults.”<sup>27</sup>

## What Else Is Good for Your Gut Health?

There’s no doubt that focusing your diet on a diverse variety of whole foods, including plentiful herbs and spices, is great for your gut. But what else works to keep your gut microbiota in top shape? Consider the following:

### Do

**Eat plenty of fermented foods** – Healthy choices include lassi, fermented grass fed kefir, natto (fermented soy) and fermented vegetables.

**Take a probiotic supplement** – If you don't eat fermented foods on a regular basis, a probiotic supplement can be useful.

### Avoid

**Antibiotics**, unless absolutely necessary. If you do use them, make sure to reseed your gut with fermented foods and/or a high-quality probiotic supplement.

**Conventionally-raised meats** and other animal products, as CAFO animals are routinely fed low-dose antibiotics.

## Do

**Boost your soluble and insoluble fiber intake**, focusing on vegetables, nuts and seeds, including sprouted seeds.

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**Get your hands dirty in the garden** – Exposure to bacteria and viruses in soil can help strengthen your **immune system** and provide long-lasting immunity against disease.

**Open your windows** – Research shows opening a window and increasing natural airflow can improve the diversity and health of the microbes in your home, which in turn benefit you.<sup>29</sup>

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**Wash your dishes by hand instead of in the dishwasher** – Research has shown washing your dishes by hand leaves more bacteria on the dishes than dishwashers do.

Eating off these less-than-sterile dishes

## Avoid

**Chlorinated and/or fluoridated water** – This includes during bathing or showering.

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**Processed foods** – Excessive sugars, along with otherwise "dead" nutrients, feed pathogenic bacteria.

Food emulsifiers such as polysorbate 80, lecithin, carrageenan, polyglycerols, and xanthan gum may have an adverse effect on your gut flora.

Artificial sweeteners have also been found to alter gut bacteria in adverse ways.<sup>28</sup>

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**Agricultural chemicals**, glyphosate (Roundup) in particular is a known antibiotic and could potentially kill many of your beneficial gut microbes if you eat foods contaminated with it.

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**Antibacterial soap**, as it kills off both good and bad bacteria and contributes to the development of antibiotic resistance.

## Do

## Avoid

may decrease your risk of allergies by stimulating your immune system.<sup>30</sup>

## Sources and References

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