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# Health Benefits of Spices

*Spices are the dried, aromatic parts of plants, including seeds, fruits, roots, bark, and flowers. They are the backbone of many cuisines, contributing to the delicious flavors and pleasurable smells of food while also supporting health. As with all plant foods, eat a variety of spices regularly for the greatest health benefits.*

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## Spice Synergy

Some spices offer unique health benefits when combined. Powerhouse spice pairings include:

- **Black pepper and turmeric:** Black pepper and turmeric are linked to reduced pain in people dealing with chronic pain<sup>57</sup> and decreased total cholesterol and LDL cholesterol in people with metabolic syndrome.<sup>58</sup>
- **Ginger and turmeric:** Ginger and turmeric are associated with anti-inflammatory effects.<sup>59</sup>
- **Peppermint and caraway:** Peppermint and caraway are associated with reduced gut discomfort in people with indigestion.<sup>60</sup>

## The Health Benefits of Spices

Eating a diet rich in spices is associated with many health benefits, including improvements in blood sugar control, cardiovascular health, and cognitive function.<sup>1</sup> The phytonutrients in spices are considered responsible for these health benefits.<sup>1</sup> While many studies use high doses of spices, even modest amounts of spices normally used in cooking are linked to health benefits.<sup>2</sup> The following spices are delicious and healthy additions to your diet:

- **Ajwain (carom seed):** A fragrant seed common in Indian and Iranian cooking. While studies on ajwain in humans are limited, early research shows an association between ajwain and reduced levels of *Candida albicans*, a yeast that can overgrow in the gut.<sup>3,4</sup>
- **Allspice:** The dried, unripe berry of the tropical myrtle pepper tree, commonly used in Caribbean cuisine. There is limited research on how allspice affects humans, but early studies suggest it may have antioxidant effects and help fight harmful bacteria.<sup>5-7</sup>
- **Asafoetida:** A resin extract that is common in Indian cooking. It has a very strong flavor and odor, so it is usually combined with other spices and herbs. A combination of asafoetida and fenugreek is linked to improvements in bloating, digestion, and bowel movements.<sup>8,9</sup>
- **Black pepper:** The dried fruits of a tropical flowering vine. Early research links piperine, a phytonutrient in black pepper, to improved liver health.<sup>10,11</sup>
- **Caraway seed:** The dried fruits of the caraway plant, often used in sauerkraut, rye bread, and cabbage dishes. Eating caraway is linked to improved digestion and decreased abdominal fat.<sup>12,13</sup>
- **Cardamom:** An aromatic spice made from seed pods of plants in the ginger family. Cardamom is commonly used in Indian, Middle Eastern, and Swedish cuisine. It is associated with reduced triglyceride levels<sup>14</sup> and reduced inflammation.<sup>15</sup>
- **Cayenne pepper:** A hot red chili pepper usually used in a ground form. Cayenne and one of its phytonutrients, capsaicin, are associated with a modest reduction in total cholesterol<sup>16</sup> and a modest decrease in abdominal fat.<sup>17</sup>

## Spice Blends from Around the Globe

Many cultures have a history of blending certain spices (or herbs and spices) together to create delicious flavors and aromas. Popular cultural spice blends include:

- **Garam masala:** a blend of black pepper, cardamom, cloves, coriander, cumin, cinnamon, and nutmeg
- **Harissa:** caraway, chili peppers, coriander, cumin, and garlic
- **Za'atar:** coriander, cumin, sumac, plus sesame seeds and the herbs thyme, oregano, and marjoram
- **Cajun spice:** cayenne, garlic, and paprika
- **Adobo:** garlic, turmeric, black pepper, and oregano



- **Cinnamon:** The dried inner bark of tropical evergreen trees. The two main types are Ceylon/Sri Lankan and Cassia cinnamon. Ceylon cinnamon has a milder, sweeter flavor, while Cassia cinnamon has a stronger flavor and is less expensive. Eating cinnamon is associated with an improvement in menstrual pain<sup>2</sup> and reductions in fasting blood sugar,<sup>18</sup> hemoglobin A1c,<sup>18</sup> liver enzymes,<sup>19</sup> total cholesterol,<sup>20</sup> and triglycerides.<sup>20</sup>
- **Cloves:** The dried flower buds of a tropical evergreen tree. Consuming cloves is associated with improvements in blood sugar control.<sup>21,22</sup>
- **Cumin:** Made from the ground seeds of the *Cuminum cyminum* plant and used in Middle Eastern, Mediterranean, Mexican, and Indian cooking. Cumin is linked to modest reductions in total and LDL cholesterol,<sup>23</sup> triglycerides,<sup>24</sup> fasting blood sugar,<sup>24</sup> and hemoglobin A1c.<sup>25</sup>
- **Fennel seed:** The sweet, dried fruits of the fennel plant that have a licorice-like taste. Fennel oil, found in fennel seeds, is linked to reduced menstrual pain<sup>26</sup> and improvements in menopausal symptoms.<sup>27</sup>
- **Fenugreek seed:** Golden-brown seeds with a nutty taste from a plant native to the Mediterranean and Asia. It is associated with reduced blood sugar<sup>28</sup> and modest improvements in total cholesterol, triglycerides, and HDL cholesterol.<sup>28</sup>
- **Galangal:** A rhizome (a root that grows horizontally underground) related to ginger and turmeric, that is native to Southeast Asia. It is often used in Thai, Indonesian, and Malaysian cuisine. Galangal contains phytonutrients with antibacterial and immune-regulating effects.<sup>29,30</sup>
- **Garlic:** A pungent bulb used in cuisines around the world. It is associated with modest reductions in total and LDL cholesterol,<sup>31-33</sup> and reduced fasting blood sugar and hemoglobin A1c.<sup>34</sup>
- **Ginger:** A rhizome with a fragrant scent and spicy flavor, popular in Asian cuisines. It is associated with reduced nausea during cancer treatment<sup>35</sup> and pregnancy,<sup>36</sup> reduced menstrual pain,<sup>37</sup> and improvements in blood sugar control<sup>38</sup> and arthritis symptoms.<sup>38</sup>
- **Mustard seed:** The tiny seeds of the mustard plant, which are in the same plant family as broccoli and cabbage. Adding mustard to other cruciferous vegetables like broccoli may improve phytonutrient absorption.<sup>39,40</sup> Mustard seeds also contain phytonutrients with antioxidant and anti-inflammatory effects.<sup>41</sup>
- **Nutmeg:** The dried seed of the small, yellow fruit of the *Myristica fragrans* tree, native to Southeast Asia. It contains phytonutrients with antioxidant and anti-inflammatory effects.<sup>42</sup>
- **Paprika:** A ground, dried spice made from peppers, including bell peppers or chili peppers. Paprika intake is associated with decreased total cholesterol.<sup>17</sup> Early research also suggests it is associated with improved cognitive function.<sup>43,44</sup>
- **Saffron:** A ground spice from the dried flowers of the *Crocus sativus* plant. Saffron is the most expensive spice in the world.<sup>45</sup> It is associated with improved sleep quality<sup>46,47</sup> and improvements in mood.<sup>48,49</sup>
- **Star anise:** The sweet, licorice-tasting dried fruit of a Chinese evergreen tree. Star anise phytonutrients are associated with antioxidant, anti-inflammatory, and antimicrobial effects.<sup>50,51</sup>

- **Turmeric:** A bright orange-yellow rhizome in the ginger family. It is associated with reduced blood sugar in people with elevated baseline blood sugar levels,<sup>52</sup> reduced knee pain and stiffness,<sup>53</sup> and modest reductions in total and LDL cholesterol and triglycerides.<sup>54</sup>
- **Vanilla:** The fragrant seed pods of a tropical climbing vine. In animal studies, phytonutrients from vanilla are associated with improved blood sugar control.<sup>55,56</sup>

## Spices & Preparation Suggestions



### *Tips for Buying and Storing Spices*

- Avoid spices that contain fillers, such as sugar, maltodextrin, gluten, preservatives, and synthetic anti-caking agents, like silicon dioxide.
- If you buy spices in bulk, store them in air-tight glass or tin containers in a cool, dark place. High temperatures can cause spices to cake or harden and change or lose color. Heat, light, and moisture accelerate a loss of phytonutrients in spices<sup>61</sup> and may affect flavor. Don't buy large quantities – buy what you think you'll use within 6-12 months.
- You can buy spices in their fresh, dried, whole, cracked, coarsely ground, and finely ground forms.
- Under ideal conditions, ground spices will keep for about a year and whole spices for 2-3 years. To test, rub between fingers to detect an aroma. If you smell it clearly, it's still potent.

Adding spices to your food is a simple and fun way to boost the flavor and healthfulness of your meals. Aim to eat a variety of spices every day. Be adventurous and try a new spice (or two) that you haven't eaten before!

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