



**Beans
is How**

The Brilliance of Beans



Global Challenges

Beans is How is an ambitious campaign to double global bean consumption by 2028.

Why? Quite simply, beans can help us fix the future.

There is a hunger and malnutrition crisis:

- 2.4 billion, or almost 30% of the world's population did not have constant access to food in 2022, and an estimated 735 million people faced hunger and 148 million children under age 5 were stunted due to malnutrition ([SOFI 2023](#)).
- 1 in 8 people are living with obesity globally, more than double the amount of adults and quadruple the amount of adolescents since 1990 ([WHO](#)). If this trend continues, the majority of the global population will be living either overweight or living with obesity by 2035 ([worldobesity.org](#)).

A crisis with affordability and food security:

- In 2022, an estimated 71 million people were living in poverty due to rising food and energy costs ([UNDP](#)).

A climate and loss of biodiversity crisis:

- Current agricultural practices cause resource depletion, including 80% deforestation & 70% fresh water withdrawals.

- An estimated one-third of all food is wasted ([FAO](#)), and one-third of greenhouse gas emissions come from agriculture ([FAO](#)).
- Food loss and waste at the supply chain and consumer levels are responsible for 6% of total global emissions ([Our World in Data, 2020](#)).
- Current agricultural practices can cause resource depletion, including 80% deforestation and 70% freshwater withdrawals. Food production and consumption is linked to 60% of biodiversity loss.

Pulses are the dry, edible seeds of non-oilseed legumes and encompass dried beans, dried peas, chickpeas, lentils, cowpeas, and several other varieties. The [Global Economy of Pulses](#), published by FAO in 2019, reported that in the last three decades, global consumption of pulses has remained stagnant at about 21 grams per capita per day, although there are regional differences in consumption.

Beans is How is a game-changing campaign which brings together a global coalition of partners to fix the food system, one bean meal at a time. Together we can work to end the malnutrition crisis, enjoy meals that don't cost the earth and tackle climate change from our dinner tables.



People

Pulses like beans, lentils and peas are good for people's health.

Beans are nutrient-dense, providing one of the best natural sources of dietary fiber and are a rich source of protein and healthy carbohydrates, with a low glycemic index. Beans are very low in fat and contain no cholesterol. They are also rich in vitamins and minerals, including potassium, iron, and B vitamins like folate ([Hall & Cassandra, 2017](#)).

You may have heard that beans are an incomplete protein. However, beans contain all of the amino acids ([Katz et al., 2019](#)) - they are just relatively low in some of them. Complementing beans with grains like rice, wheat, and oats provides adequate amounts of all the amino acids ([Bouchard et al., 2022](#)). This is because beans provide a rich source of amino acids grains are low in, and vice versa.

Beans are associated with numerous health benefits ([Didinger & Thompson, 2022](#)) such as the promotion of healthy weight maintenance and gut health, and the reduction of the risk for several chronic diseases, including type 2 diabetes, cardiovascular disease and cancers like colorectal cancer.

Not only does chronic disease prevention improve the healthspan (i.e., years of the lifespan for which a person is healthy), but it also brings significant co-benefits for health care and societal cost savings ([Abdullah et al., 2017](#)). Therefore, the health benefits associated with beans can also result in important economic benefits.



Planet

Beans and other pulses are known for providing numerous environmental benefits, ranging from improving soil health to reducing greenhouse gas emissions.

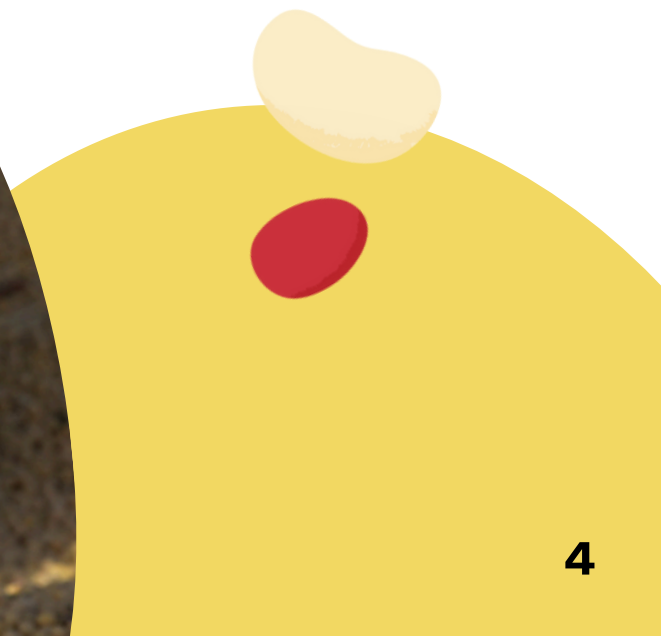
Beans can fix atmospheric nitrogen - through a symbiotic relationship with soil bacteria - thereby converting this nitrogen into a form usable by plants. This reduces the need for synthetic nitrogen fertilizers, helping save farmers money and reducing the negative environmental impacts associated with fertilizer production and overapplication, such as runoff into water systems and contribution to climate change through greenhouse gas emissions ([Peoples et al., 2019](#)).

Including beans in crop rotation can benefit soil health and also help improve biodiversity, providing a food source for pollinators ([Peoples et al., 2019](#)).

Certain pulses require less water to produce than other sources of protein ([Our World in Data, 2018](#)). Pulses demonstrate key climate adaptations, such as tolerance for challenging growing conditions. For example, cowpeas and tepary beans are recognized for drought- and heat-tolerant traits ([Foyer et al., 2016](#)).

Beans have a long shelf-life and can be stored dry, canned, jarred, in pouches, frozen and in flour form. This can help reduce food waste and the associated climate impacts.

Beans can help mitigate climate change because bean production results in much lower greenhouse gas emissions than other sources of protein ([Peoples et al., 2019](#)).



Prosperity

Beans play a critical role in improved nutrition security in populations around the world, and their versatility creates numerous market opportunities.

Beans have been grown in countries around the world for millennia, simultaneously making them culturally responsive and providing opportunities to develop a wide range of bean-centric dishes and innovative products.

The diversity and culinary versatility of beans allows them to be used in meals, snacks, desserts, sauces, spreads, beverages, and more, thereby providing business opportunities.

There is incredible natural genetic diversity in beans. Additionally, new bean varieties are being bred using traditional plant breeding methods, with goals such as faster cooking times, increased tolerance to challenging conditions like heat and drought, and improved vitamin and mineral content and bioavailability.

Many people depend on beans as a primary staple and important source of protein in their diets. In regions such as sub-Saharan Africa, beans are cultivated mainly by women, empowering them to provide nutrition for their families and creating a potential income source ([Buruchara et al., 2021](#)).

Beans and other pulses are economically accessible, which contributes to improved food and nutrition security. However, prices may be higher than for cereal grains ([Joshi & Rao, 2017](#)), which can cause them to be less economically accessible to those with limited financial resources. This is both a challenge and an opportunity - if production of beans increases, the availability and cost of beans could decrease, making them more accessible.



Acknowledgment

Beans is How is a campaign to double global bean consumption by 2028. By uplifting policy and academic research and galvanising significant stakeholder action, the campaign is amplifying the importance of beans as a simple, affordable solution to our global financial, health and climate problems.

“The Brilliance of Beans” outlines the important contributions beans and other pulses like chickpeas and lentils make to advancing the well-being of people and planet while promoting sustainable prosperity. It was written by Dr. Chelsea Didinger for Beans is How with contributions from Alyson Greenhalgh-Ball, Kristin Gutekunst, Emily Mbelenga and Paul Newnham. Graphic design was provided by Ceanne Thompson-Deane.

For more information about Beans is How, please visit www.beansishow.org and follow on Instagram and X via @beansishow #beansonthemenu.



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