

# FUTURE 50 FOODS



**Algae**  
**Beans & Sprouts**  
**Cacti**

50 foods  
for healthier  
people and a  
healthier planet





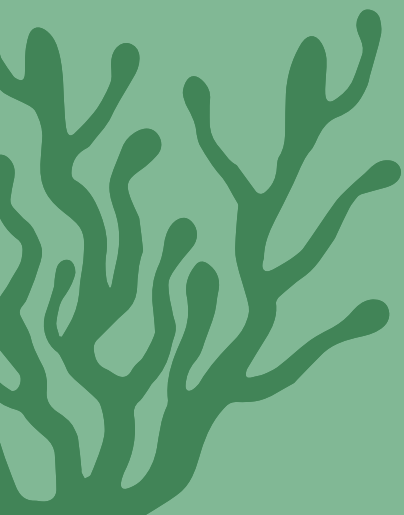
**FUTURE 50 FOODS IS  
THE BEGINNING OF A  
JOURNEY AND A WAY  
FOR PEOPLE TO MAKE A  
CHANGE, ONE DELICIOUS  
DISH AT A TIME.**





# ALGAE

Algae are nutrient-rich and critical to our existence on the planet. They are responsible for half of all oxygen production on Earth and all aquatic ecosystems depend on them. They contain essential fatty acids and are an excellent source of antioxidants. Algae can be rich in protein and have a meat-like umami flavour, making them a potential replacement for meat<sup>8,9</sup>.







## Laver seaweed

*Porphyra umbilicalis*

Laver is a variety of red algae known for its link to Japanese cuisine. Called 'nori' in Japan and most commonly used for wrapping sushi, laver is heralded for its exceptional nutrient content and ability to bring out the umami flavour in foods. Umami is the flavour profile that meat provides and is commonly missed in plant-based dishes.

Edible seaweed cultivation has been suggested to be a game-changer<sup>10</sup> in the food system. Because it lives wild in the water, laver seaweed can be grown and harvested throughout the year and does not require pesticides or fertilisers. Laver seaweed is rich in vitamin C and iodine<sup>11</sup>.

Laver is often consumed dried as a topping for soups and salads. In Korea, it is eaten dried as a savoury snack and is referred to as 'gim'. In the UK, especially in Wales, laver is used to make laverbread, a dish in which the fresh seaweed is slow-cooked, seasoned and traditionally served with hot, buttered toast. Some say people in Wales have been eating laver since the first inhabitants arrived; others say it was introduced by the Vikings.



Category

Algae



## Wakame seaweed

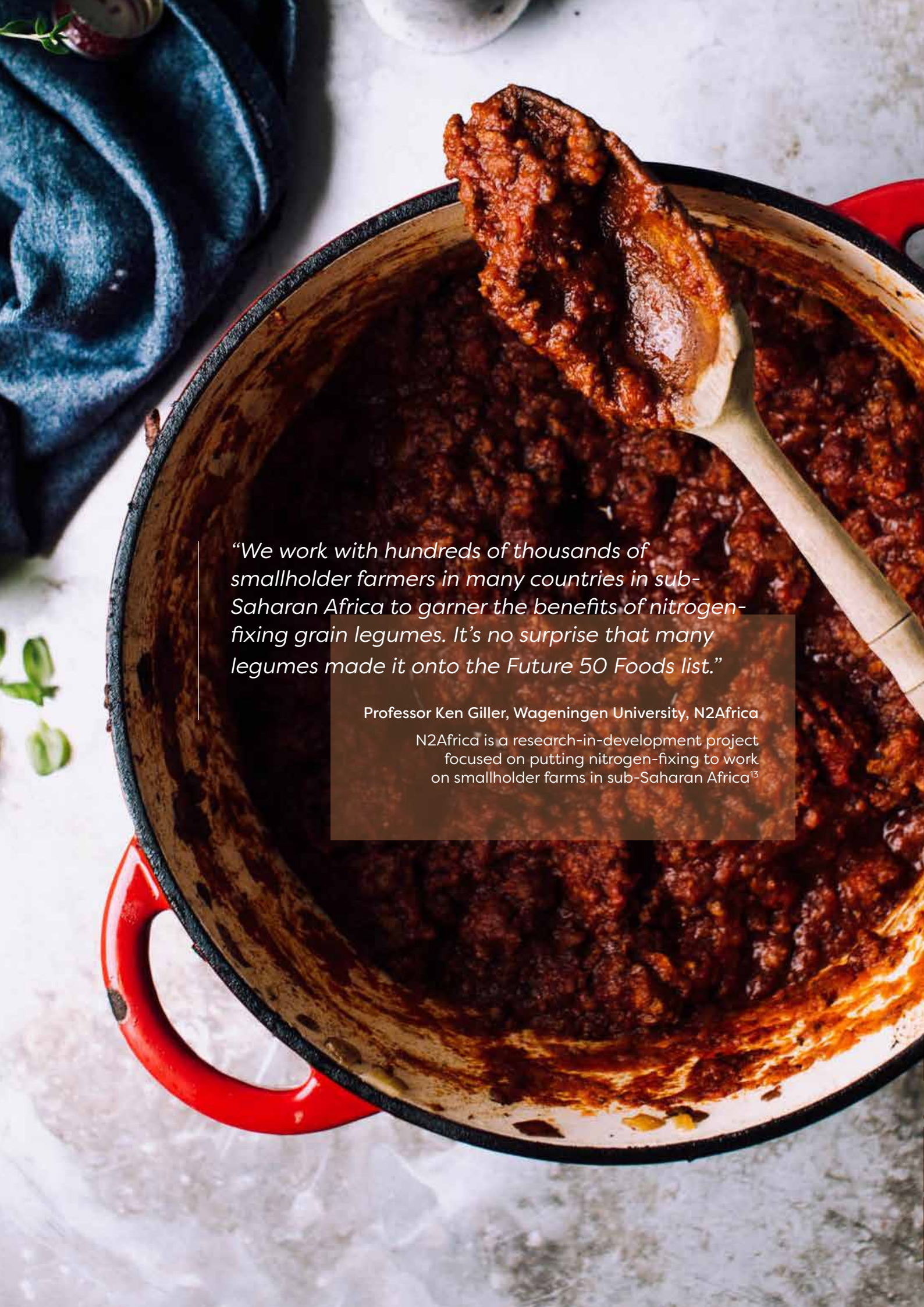
*Undaria pinnatifida*

Cultivated for centuries by sea farmers in Korea and Japan, deep-green coloured wakame is rich in nutrients and easy to grow. Maintaining similar properties to other seaweeds, it can be harvested all year round, grows rapidly without the use of fertilisers or pesticides and supports the water's biological balance. Beyond Asia, it is farmed in sea fields in France, New Zealand, California and Argentina.

In addition to containing a variety of vitamins and minerals, wakame is one of the few plant-based sources of the omega 3 fatty acid EPA (eicosapentaenoic acid), which is found almost exclusively in fatty fish that feed on algae<sup>12</sup>. Most commonly sold dried and then rehydrated, wakame has a savoury flavour and satin-like texture. It can be chopped and added to soups or fried and thrown into salads, stir-fries, and side dishes for a salty, umami flavour.







*“We work with hundreds of thousands of smallholder farmers in many countries in sub-Saharan Africa to garner the benefits of nitrogen-fixing grain legumes. It’s no surprise that many legumes made it onto the Future 50 Foods list.”*

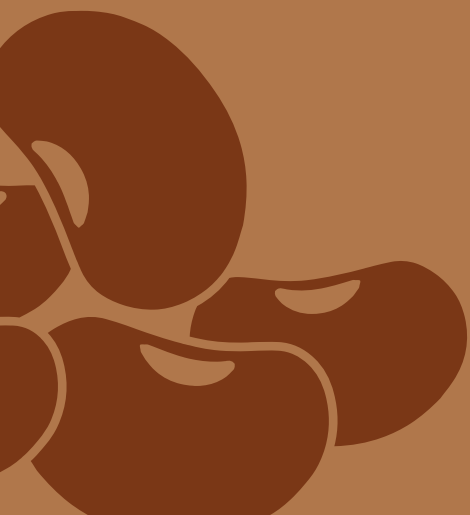
Professor Ken Giller, Wageningen University, N2Africa

N2Africa is a research-in-development project focused on putting nitrogen-fixing to work on smallholder farms in sub-Saharan Africa<sup>13</sup>



# BEANS & PULSES

Beans and other pulses are members of the legume family. They can convert nitrogen from the air and ‘fix’ it into a form that can be readily used by plants. More than environmental superheroes, beans offer us a rich source of fibre, protein and B vitamins. They are eaten in many dishes all over the world and have a mild flavour and meat-like texture, making them a sensible swap for meat in stews, soups and sauces.







## Adzuki beans

*Vigna angularis*

Adzuki beans are rising in popularity due to their versatility, nutritional content and flavour. Small and brownish-red, they are the nutrient-rich fruit of drought-tolerant plants, meaning they require less water than many other crops and can produce high yields, even on dry land.

They are commonly enjoyed in Japan and other parts of Asia, thanks to their mild and sweet, slightly nutty taste and reputed health benefits. They are full of antioxidants<sup>14</sup> and

packed with protein. They also contain high levels of potassium, B vitamins and fibre.

Adzuki beans are often cooked, puréed and sweetened to make a paste that can be used as a filling in sweet treats, added to soups and mixed with rice as a tasty side dish. They are also great in salads and stir-fries.

## Black turtle beans

*Phaseolus vulgaris*

These powerhouses of the legume family are regularly listed as 'superfoods' due to their high protein and fibre content.

Particularly popular in Latin American cooking, black beans are small and shiny with a subtly sweet, mushroom-like flavour. Their dense, meaty texture makes them perfect for stews and curries, or as a substitute for ground beef in any dish.

They are often combined with grains like brown rice or quinoa, seasoned with onions, garlic and spices and served as a side dish, or topped with vegetables for a full meal. Whether bought canned or dried, the water used to store or cook the beans can be added to dishes for extra earthy flavour.

## Broad beans (fava beans)

*Vicia faba*

When in bloom, the sweet-scented flowers of the broad bean plant call to honeybees – the vital pollinators responsible for one in three mouthfuls of food. Broad beans also function as a cover crop, grown between harvests to protect the land. Cover crops help suppress weeds, enrich the soil and control pests. These hardy and adaptable plants can grow in most soils and climates.

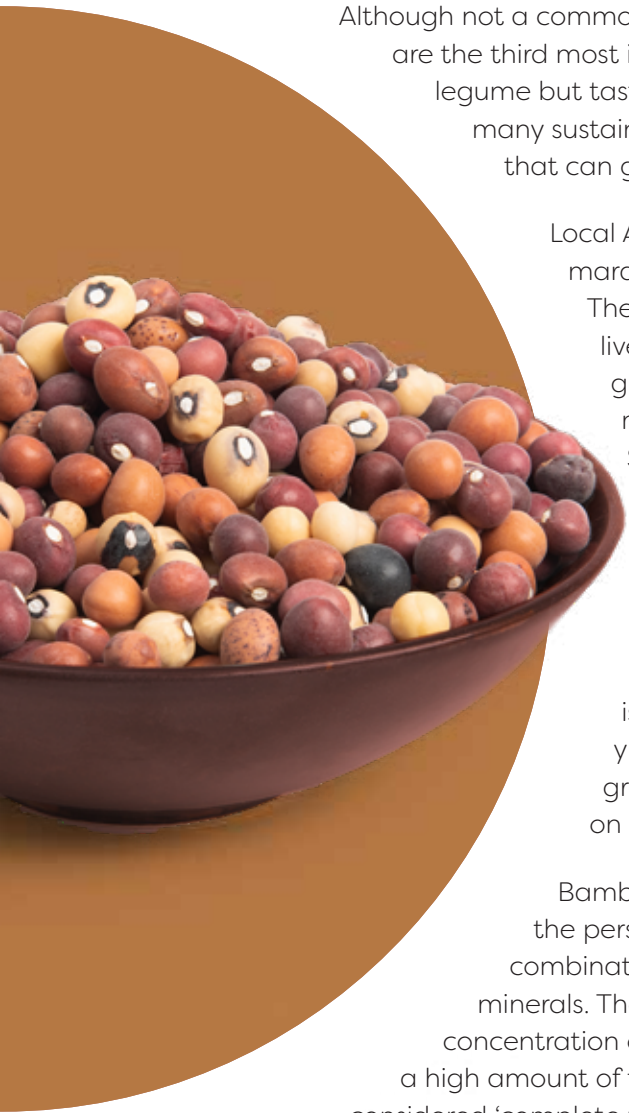
The beautiful green beans have a sweet, grassy taste and buttery texture. They are protected by a pod that can be eaten raw when the plant is young. As the plant ages, the pod hardens and is not commonly consumed due to its texture and bitter flavour. They make a nice protein and fibre-packed addition to risottos, soups and stews. They are also great as a side dish seasoned with rosemary, thyme and pepper.





## Bambara groundnuts/Bambara beans

*Vigna subterranea*



Although not a commonly known crop in many parts of the world, Bambara groundnuts are the third most important legume in Africa, after peanuts and cowpeas. It is a legume but tastes like, and is eaten like, a nut. It has gained interest amongst many sustainable food experts because it is an underutilised, nutritious crop that can grow in challenging environments, even in highly acidic soils.

Local African names for Bambara groundnuts include jugo beans, ditloo marapo, indlubu, hlanga, njugo, nduhu, phonda, and tindhluwa.

The name Bambara groundnut originates from the Bambara tribe that lives throughout Mali, Burkina Faso, Guinea and Senegal. They are grown mainly across these regions in sub-Saharan Africa and more scarcely in South Africa. They are also cultivated across Southeast Asia, primarily in southern Thailand, West Java and parts of Malaysia<sup>15, 16</sup>.

Growing Bambara groundnuts has many advantages, making them a model sustainable crop. It has nitrogen-fixing nodules, which means the roots fix nitrogen from the air which the plant uses as a fertiliser to produce the nutritious bean. Some of the nitrogen is returned to the soil, thereby improving fertility and helping boost yields when intercropped with other plants. In Malaysia, Bambara groundnuts are grown to support the growth of delicate young trees on its rubber plantations.

Bambara groundnuts also boast an impressive nutrient profile, from the perspective of both the farmer and the consumer, with their unique combination of carbohydrates, protein, fibre and many vitamins and minerals. They have less fat than peanuts, allowing them to have a higher concentration of nutrients per calorie. Compared with other legumes they have a high amount of the essential amino acid methionine. The Bambara groundnut is considered 'complete food' because of the balance of macronutrients accompanied by the amino acid and fatty acid content.

Bambara groundnuts can be boiled, roasted, fried or milled into a fine flour. The pods are hard and need to be cracked open to get the edible seed. They are often boiled to make them easier to open and the seeds are eaten as snacks, either plain or with a seasoning. In East Africa the beans are roasted and puréed to be used as a base for soups. Their flavour is similar to peanuts but a bit sweeter and not as oily<sup>17</sup>. This versatile, resilient legume deserves to take a prime spot on your plate.



## Cowpeas

*Vigna unguiculata*

There are many types of cowpeas; some are more commonly eaten than others.

Catjang cowpeas are a less common variety. They are native to Africa but now grow in warm regions around the world, including Latin America, Southeast Asia and the southern part of the United States. Commonly cultivated for their nutty taste and high nutritional value, the seeds are little energy powerhouses packed with minerals and vitamins, including folate and magnesium.

Protein-packed cowpeas are a quick-growing cover crop and are drought hardy and heat-tolerant. They are also a strong nitrogen-fixer, capable of thriving in poor soils and self-seeding<sup>18</sup>. Cowpeas are also able to withstand grazing pressures from livestock.

Cowpeas make a hearty, thick soup while their leaves can be enjoyed in the same ways as other leafy greens. The pods can also be eaten when young and are used in stews. With their outer coating removed, the seeds can also be ground into flour and used to make deep-fried or steamed patties. In Senegal, Ghana and Benin, the flour is used in crackers and other baked goods.





Category

Beans &amp; Pulses



## Lentils

*Lens culinaris*

Originally from North Africa and Asia, this cousin of the pea was one of the world's first cultivated crops. Requiring little water to grow, lentils have a carbon footprint 43 times lower than that of beef<sup>19</sup>.

There are dozens of varieties, all with slightly different earthy, peppery or sweet flavours. Lentils are packed with protein, fibre and carbohydrates. Puy lentils keep their shape

and texture after cooking and are often served with fish or roasted vegetables. Red and yellow lentils dissolve into a rich purée and are delicious mixed into stews, curries and soups. They are also used to make veggie burgers. All lentils are simple to cook; pre-soak if necessary, then boil in water or stock/broth (three to one ratio of water to lentils) for 15 to 20 minutes for whole lentils and five to seven minutes for split lentils.

## Marama beans

*Tylosema esculentum*

Native to the Kalahari Desert in southern Africa, marama beans and their edible tuberous roots are drought-tolerant and adapt well to harsh environments and damaged soils. They are thought to be an ancient food, eaten for as long as people have been in southern Africa and are now being successfully cultivated in Australia and the US.

Their oil, which is a good source of essential fatty acids, can be used for cooking as well as a dressing. Marama beans themselves can be boiled or ground into flour. They can also be used to make a milk drink. When roasted, they taste similar to cashews, making them a great addition to stir-fries, curries and other cooked dishes.

## Mung beans

*Vigna radiata*

Originally from Southeast Asia, mung beans were first grown in the US in the 19th century as livestock feed. Today, these tiny, tender beans are prized by people in Asia and beyond for their crisp, clean taste and ability to absorb flavours. They also contain protein, B vitamins and various minerals.

Natural nitrogen-fixers, the plants thrive in sunny conditions and are considered heat and drought-tolerant.

Mung beans are great with noodles, rice dishes, curries and stir-fries. They can even be scrambled like eggs or puréed to resemble ice cream. Their sprouts are nutritious too, adding crunch to salads and sandwiches with their sweet but earthy flavour.



## Soy beans

*Glycine max*

Soy (soya) is a pivotal part of the world's food system. High in protein, soy has transcended its Asian origins to become the most widely grown legume across the globe. Cultivated for well over 9,000 years, soy was regarded by the ancient Chinese as a necessity for life. It was eaten as a source of protein and crushed for its oil, which now accounts for a large proportion of global vegetable oil consumption.

Soy's nutritional value makes it an undoubtedly powerful food. Raw soy beans contain 38 grams of protein per 100 grams<sup>20</sup>, which is similar to pork and three times more than an egg. In fact, soy – which delivers more protein per hectare than any other crop – also contains vitamin K and B in addition to significant amounts of iron, manganese, phosphorus, copper, potassium, magnesium, zinc, selenium and calcium. Nutrient-packed soy comes in a variety of products and formats including tofu, soy milk, miso, tempeh and edamame.

Despite its versatility and nutritional value, three-quarters of all soy produced is not for human consumption, but rather for animal feed<sup>21</sup>. It takes a high volume of soy as animal feed to produce only a small amount of meat, which highlights the inefficiency in the food system. Poultry is the number one livestock sector that consumes soy beans followed by pork, dairy and beef<sup>22</sup>.

The current and predicted steady increase in meat consumption poses major challenges to sustainable soy production. Cultivation of soy may drive deforestation, damaging natural ecosystems such as the Amazon, Cerrado and Chaco – home to spectacular wildlife like jaguars, giant anteaters and armadillos.

Progress is being made. The negative impact of soy production has been slowed by collaborative market initiatives like the Amazon Soy Moratorium, reducing soy-driven deforestation levels in the Amazon rainforest to almost zero. Unilever, Knorr's parent company, is actively working with other industries and NGO stakeholders to call for a halt in conversion of the Cerrado. Unilever is leading by example by buying sustainably certified soy oil for their products, such as Hellmann's mayonnaise, and by actively promoting sustainable sourcing standards.

Ultimately, lowering the demand for soy as animal feed is a critical lever for reducing the deforestation caused by soy production. Shifting to more plant-based foods, including soy, will help to reduce the demand for soy as animal feed, taking pressure off fragile ecosystems, while increasing availability of nutritious sources of protein.







# CAC<sup>4</sup>PI

While often used as decorative plants in homes around the world, many species of cacti are cultivated for consumption. Also known as succulents, cacti store water, which allows them to grow in arid climates and tolerate drought. They also contain substantial amounts of vitamins C and E, carotenoids, fibre and amino acids. Edible cacti have long been a part of Mexican cuisine and the delicious young stem segments, usually called nopales, are the part most commonly used in recipes.





## Nopales

*Opuntia*

Also known as the prickly pear or cactus pear, nopales are easy to grow and highly adaptive. They are widely cultivated in Central and South America, Africa and the Middle East, and are beginning to increase in popularity in Australia and Europe.


The fruit, flower, cladodes (flattened shoots rising from the stem of the plant) and oil of the nopal cactus are rich sources of nutrients, but they are not only valuable crops from a nutrition perspective. They also have potential for use as an alternative animal feed and to produce biogas<sup>23</sup> (a renewable energy source).

Some clinical studies suggest that nopales can even help with weight loss,<sup>24</sup> due to their low calorie and high fibre content, but the benefits are yet to be proven. They have also undergone trials with results suggesting that they could help relieve symptoms of alcohol-induced hangovers<sup>25</sup>. This is likely due to their nutrient and water content.

Nopales are a common ingredient in Mexican cuisine; the leaves and flowers can be eaten raw, cooked, or made into delicious juices or jams.





A wooden bowl filled with granola, topped with a dollop of white yogurt and a slice of dried orange. A wooden spoon is placed in the bowl. In the background, a glass jar of honey sits on a wooden surface, with a wooden dipper resting inside it. The scene is set on a dark wooden table, with some granola scattered around the bowl.

*“Demand for a wider variety of crops could provide more farmers in developing countries with a boost in income. If handled carefully, with safeguards against potential environmental, social and economic risks, it could mean they can send their children to school instead of to work, can invest in the farm and become more financially secure - the whole local economy could benefit.”*

Sabita Banerji, Oxfam GB

Check out the full report at  
**[ufs.com](https://www.ufs.com)**

FUTURE  
**50**  
FOODS

