GREENCUISINE TRUST

Ways to maximise nutrition on a plant based diet

To survive and thrive plants have produced different compounds as a strategy to protect themselves from predators and disease. Many of these compounds known as phytochemicals or phytonutrients are hugely beneficial. It is possible for others like lectins, glucosinolates, phytates and oxalates to have a negative effect on the body and are often referred to as anti-nutrients.

Lectins

These carbohydrate-binding proteins are found in many foods. The highest concentration is in **legumes, particularly soya and peanuts; seeds of the grass family, like millet, oats, rye and wheat; and the deadly nightshade family, potatoes, tomatoes and peppers.**

If you eat them in large amounts without cooking, they are difficult to digest and can damage the micro-villi in the small intestine leading to inflammation, altered gut microorganisms, malabsorption, and eventually disease. Fermenting and sprouting reduces lectins. Heat destroys lectins, using a pressure cooker is the best form of cooking to eliminate lectins.

Glucosinolates

Glucosinolates are found in cruciferous vegetables, including **broccoli, Brussels sprouts, cabbage, radish, turnips and cauliflower.**

Glucosinolates and their breakdown products can interfere with thyroid hormone production and iodine uptake, potentially leading to hypothyroidism and goiters, particularly in individuals with pre-existing thyroid conditions or when consumed in large quantities. Cooking will break down glucosinolates and fermenting will significantly reduce glucosinolates.

Oxalates

Oxalates and oxalic acid occur in many types of plants, but they are particularly abundant in **tea, spinach, parsley, and rhubarb.** These compounds bind to calcium and other minerals.
Oxalates break down during cooking. Soaking and fermenting are good techniques to reduce oxalates. Unless you're consuming a great deal of these foods, there's nothing to worry about.

Phytates

If you're a plant, you need phosphorus to grow and its stored in a compound known as phytate. Phytates can bind to minerals like iron, zinc, and calcium, making them less readily available for absorption in the gut. Foods high in phytates are **grains, legumes, nuts and seeds.** Soaking, sprouting, fermentation, and cooking can reduce phytate levels in food

Research is finding that depite the potential negative effects lectins, glucosinolates. oxalates and phytates may have health benefits. Either way the foods containing these compounds are generally high in vitamins, minerals, fibre and phytonutrients.

The benefits of these healthy nutrients, for most people, particularly if the plant in question is prepared properly, far outweighs any negative effects.

Traditional cultures throughout the world have used methods of soaking, sprouting & fermenting to prepare grains, legumes, nuts and seeds. Whilst not essential all of the time, adopting one or more of the following methods of preparation will help minimise any potential negative effects and help support optimal nutrition and health.

Soaking

Soaking grains and legumes reduces the levels of phytates and lectins which can bind minerals such as calcium, iron and zinc, impairing their absorption.

Soaking before cooking is a very simple process with the added benefit of the reduction in cooking time so less energy expense!

Soaking grains
Place your chosen grains in a bowl
Cover with chlorine free water – use double the amount of the item being soaked.
For every 200g stir in 1 tablespoon of apple cider vinegar
Leave the bowl at room temperature for 12 – 24 hours
Drain, rinse and the grains are ready to cook
Never use the soak water to cook the grains

Soaking legumes
Place your chosen beans into a bowl and cover with chlorine free water
For every 200g add a pinch of bicarbonate of soda
Leave the bowl at room temperature for 18 – 24 hours
Drain, rinse well and they are ready to cook
Never use the soak water to cook the grains
It is important to cook legumes thoroughly.
Red kidney beans & lima beans must be boiled vigorously for 15 minutes.

Soaking lentils
Place the lentils in a bowl and cover with water.
For every 200g stir in 1 tablespoons apple cider vinegar
Leave the bowl at room temperature for 12 hours
Drain, rinse and they are ready to cook
Never use the soak water to cook the grains

Soaking nuts and seeds
A particular technique used in the preparation of nuts and seeds is known as activation. The nuts and seeds are soaked in lightly salted water for 12 hours before draining and drying in a dehydrator at a low temperature so the nutrition is preserved. You could soak, drain and toss them in salads without drying, but you can not store the nuts unless they are dried.

Sprouting

The greatest vitality in the life cycle of a plant is in the sprout. As seeds germinate they spring into life and become superbly suited to our nutritional needs.

Many ancient cultures knew the value of sprouting seeds, they were mentioned in Chinese writing dating back 5,000 years and ancient documents found in the Vatican library refer to sprouting. Sprouted seeds were an important part of the long-lived Hunzas diet in the Himalayas.

The sprouting process makes the seed far easier for us to assimilate and metabolise. The active enzymes in germinating seeds aid digestion and assimilation of nutrients placing less of a burden on the digestive system.

All edible grains, seeds (with the exception of the deadly nightshade family – tomatoes, aubergine, potatoes and peppers) and legumes (with the exception of kidney beans and lima beans) can be sprouted.

How to sprout
Choose a large jar, put in chosen seed, cover with filtered water, and fasten using a rubber band a piece of fine net over the top. After soaking for the appropriate time pour off the soak water and rinse well. Turn the jar upside down and let it drain. Rinse the sprouts morning and evening. It is important to keep them moist, warm (room temperature is fine) and well drained. Between rinsing place the jars at an angle for ease of drainage. Once the sprouts are ready strain & wash thoroughly, drain, put in a bowl, cover and store in the fridge.

Be wary of sprouting alfalfa as in this instance the lectin activity is actually enhanced by sprouting.

Fermenting
The process of fermentation allows beneficial bacteria to digest and convert many potential anti nutrients in grains and legumes. Many cultures have a long tradition of eating fermented foods.

Ogi, fermented corn or millet from Africa; idli, fermented lentils & rice from India. Ethiopian injera made from teff , Japanese miso, and Indonesian tempeh from soy beans are all foods made more nutritious through fermentation.

Sauerkraut
For every kilo of cabbage you need a heaped tablespoon salt (or 20g)

Shred the cabbage and place in a large metal bowl sprinkle over the salt and massage until you produce plenty of juice.

Place about 2" of cabbage into the glass jars or crock and press firmly down, repeat until full and there is enough brine to cover the cabbage.

Place a weight on the cabbage to keep all the cabbage submerged, a good strategy is placing a cabbage leaf over the compressed cabbage then a weight, like a jar filled with water, on top.
Push the cabbage down well. If you are using a leaf ensure that is also under the liquid. If there is not enough brine to cover the cabbage add a little filtered water. Place the jar on a plate, cover with a cloth and let the jar sit at room temperature.

Check the sauerkraut stays under the brine and top up if necessary. After a 7 - 10 days the cabbage will most likely have fermented sufficiently to be eaten, but you can leave it for a further 2 weeks before fitting a lid and storing in a cool dry place, where it will last for months. Once you start eating the sauerkraut store in the fridge.

buy organic food whenever you can
eat seasonally
source your food as locally as possible
join a box scheme
grow your own (garden, allotment or community garden)
support food & farming campaigning organisations

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