It is generally rich in antioxidants, vitamins B, C and E, magnesium, potassium, phosphorus, and iron, although it is low in protein and calcium.

About 50% of its fat is lauric acid - a medium chain fatty acid (MCFAs) that is converted by your liver into energy, especially by the brain, rather than stored as fat.

Your body converts lauric acid into monolaurin, an antiviral and antibacterial that destroys a wide variety of disease causing organisms.

MCFAs may help to improve heart health, by lowering blood pressure and cholesterol, and to improve digestion and constipation.

**Rice Milk**

- It is made by pressing soaked rice through a mill using diffusion to strain out the pressed grains, or by using rice flour, or by boiling brown rice with water, blending and straining the mixture.
- It is naturally high in magnesium, iron and copper that helps by lowering blood pressure and improving energy levels, and it contains a heart healthy unsaturated fat from the rice bran oil.
- It is low in protein and is often fortified with B vitamins, calcium and vitamin D.
- A natural enzymatic process cleaves the carbohydrates in the rice into sugars (glucose), to generate the natural sweetness similar to that of the Japanese amazake.
- Some rice milks may nevertheless be sweetened with sugarcane syrup or other sugars.
- Its high carbohydrate content may be problematic for diabetics or when trying to stabilize blood sugar levels, but is the least allergenic of all plant milks.
- Rice milk also has a potential problem with naturally occurring arsenic contamination from the soil.

**Environmental Impact**

- **Soya** - In South America, almost 4 million hectares of forests are destroyed every year for soy foods and milk, according to Worldwide Fund for Nature.
- **Oats** - greatly reduce soil erosion and the need for pesticides, but it is still a fairly heavy water user.
- **Rice** - is an extremely water intensive crop as it is grown in water filled rice paddies - some varieties requiring less water are being developed but many are GMO. Deforestation and soil erosion also play a huge part.
- **Coconut** - numerous products arise from this one tree (milk, oil, fibres, coco peat) making it very environmentally sustainable.
- **Hemp** - is a hardy, fast growing plant that does not require large amounts of water and is resistant to diseases and pests.
- **Almond** - more than 80% of the world’s almonds are grown in drought-ravaged California - they are an incredibly water intensive crop and an amazing amount is required for processing a very small nut crop.

**The Bottom Line:**

Hemp actually looks the best plant milk, as it has the best ‘natural’ nutrient levels, no health risks and less of an environmental impact, followed by oat milk – that has more calories. To be honest, most of these milks are a con, as they are often primarily made with water, stabilizers and very little product, and are fortified with nutrients to make up those that are lost. If you really can’t do without some form of dairy (and want avoid cow’s milk) then make your own to get a better range of nutrients and a fresher product. However, if convenience is your thing then make sure to shop for (unsweetened) milks with nothing added and with the least ingredients possible, and research those you are not sure about.
Plant Based Dairy

- ‘Plant-based dairy/milk’ refers to non-dairy milks, which are made from plants.
- Plant milk has been consumed for centuries in various cultures, both as a regular drink (such as the Spanish horchata), and as a substitute for dairy milk.
- The most popular varieties are soya, oat, almond, coconut, rice and hemp.
- Plant-based milks provide a convenient and healthful alternative to cow’s milk.
  - A large % of humans are lactose intolerant - the consumption of dairy products has been linked to everything from increased risk of ovarian and prostate cancers, to ear infections and diabetes.
  - Plant-based milks vary widely in their macronutrient (protein, carb and fat) composition, but also in terms of the micronutrients (vitamins and minerals) they contain.
  - They generally contain no lactose, or cholesterol.
  - Plant milks are often loaded with additives (natural and unnatural) that are used for stability and palatability.

Nutritional values of selected Plant Based Dairy

<table>
<thead>
<tr>
<th>Plant Milks</th>
<th>Calories</th>
<th>Fat</th>
<th>Saturates</th>
<th>Carbs</th>
<th>Sugars</th>
<th>Protein</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soya Milk</td>
<td>33-54 Cals</td>
<td>1g</td>
<td>0g</td>
<td>6g</td>
<td>5g</td>
<td>2g</td>
</tr>
<tr>
<td>Oat Milk</td>
<td>42 Cals</td>
<td>0.5g</td>
<td>0.1g</td>
<td>6.8g</td>
<td>3.3g</td>
<td>1.4g</td>
</tr>
<tr>
<td>Almond Milk</td>
<td>17-40 Cals</td>
<td>1g</td>
<td>0.7g</td>
<td>9.1g</td>
<td>5g</td>
<td>0.4g</td>
</tr>
<tr>
<td>Hemp Milk</td>
<td>39 Cals</td>
<td>2.5g</td>
<td>0.2g</td>
<td>3.4g</td>
<td>1.6g</td>
<td>0.1g</td>
</tr>
<tr>
<td>Coconut Milk</td>
<td>20-22 Cals</td>
<td>0.9g</td>
<td>0.1g</td>
<td>2.7g</td>
<td>0.1g</td>
<td>0.1g</td>
</tr>
<tr>
<td>Rice Milk</td>
<td>47 Cals</td>
<td>1.0g</td>
<td>0.1g</td>
<td>9.5g</td>
<td>5g</td>
<td>0.1g</td>
</tr>
<tr>
<td>Rice Milk</td>
<td>47 Cals</td>
<td>1.0g</td>
<td>0.1g</td>
<td>9.5g</td>
<td>5g</td>
<td>0.1g</td>
</tr>
</tbody>
</table>

Based on 100ml Values of (Unsweetened) Plant Based Dairy - Sources: nutritiondata.com / alpro.com

Soya Milk

- Soaking or steaming dried soybeans and grinding them in water produces soya milk.
- It is a stable emulsion of oil, water and protein - the stability coming from carrageenan (from seaweed) and gellan gums (a polysaccharide from bacteria).
- Soya milk is a complete protein - the same as cow’s milk, and is a good source of iron, magnesium, copper, selenium and manganese.
- Soy is often fortified with calcium to compete with dairy, vitamins B (all) and D and is often loaded with sugars for palatability.
- The phytoesters in soy function to inhibit the absorption of cholesterol by blocking absorption sites, thereby lowering levels.
- Soy is contraindicated in thyroid conditions - it is goitrogenic and can affect thyroid hormone metabolism in certain cancers - its phytoestrogens can affect oestrogen levels.
- 90 to 95% of soybeans grown in the US are genetically modified - so they are resistant to the dangerous herbicide ‘round up’ so it’s important to find out where yours comes from.

Oat Milk

- Soaking oats overnight, then blending with water and straining produces oat milk.
- It has moderate levels of protein and is on the higher end in terms of sugar and calories, but doesn’t normally have added nutrients.
- It naturally has good levels of calcium, iron, manganese, potassium, phosphorus, many B vitamins, vitamins E and A that can help with energy, eye and bone health, and immunity.
- It also contains fibre, unsaturated fats and phytochemicals (antioxidants), to support gut health, lower cholesterol and protect against heart disease and stroke.
- Oat milk has skin clearing properties and is known to clear acne and improve the overall health of the skin, as well as strengthen and repair hair.
- Those with gluten intolerance may have to avoid store bought oat milk – as the processing is done in a gluten environment, but can make it themselves using gluten free oats.

Almond Milk

- Almonds are soaked for one-to-two days, then drained and rinsed and blended with fresh water to make the milk.
- Soaking reduces the phytate content (see pulses leaflet) of the nut and improves its nutritional value.
- Commercial milks are a combination of almonds (± 2%), water, salt, sweeteners, thickeners (carrageenan, or gellan gum), and is often fortified with Vitamins A, B, D & E, and calcium.
- It is low in protein, and calories, as cartons of commercial milks are generally made from water and a few nuts.
- The natural nutritional value improves if you make your own, as it will have better levels of beneficial omega fats, potassium, zinc, magnesium, vitamin E and manganese.
- These nutrients protect against free radical damage, promote heart health and lower cholesterol.
- There are no real health issues apart from the potential problems with carrageenan (gellan gum is less problematic), and those with nut allergies.

Hemp Milk

- Hemp milk is made from seeds that are soaked and then ground in water and strained.
- The unsweetened variety is the only version that has no added sugar.
- Hemp seeds contain no, or only trace amounts, of tetrahydrocannabinol (THC), the psychoactive substance found in the related varieties of the Cannabis plant.
- It provides low levels of complete protein that is more digestible than soy protein because it has no oligosaccharides, complex sugars that cannot be properly broken down during digestion.
- It contains a ratio (3-1) of omega-6 to omega-3 fats and good levels of magnesium, phytoesters, vitamins B1, B2, B3 & C, beta-carotene, calcium, fibre, iron, potassium and phosphorus.
- These can help with immune support, circulation, healthy skin, hair and nails, increased mental capacity, and has anti-inflammatory effects.
- There are no real health issues with drinking hemp milk.

Coconut Milk (From Carton - Not Tinned)

- Coconut Milk is made from the expressed juice of fresh grated coconut meat and water.
- Many brands use natural and artificial flavours and starches to simulate what we think of as traditional milk – so shop for those with minimal ingredients.
- Commercial brands are much lower in calories and fats than fresh coconut milk, as it is primarily made with water.