

# FermentActive Maca

Code FE2318 – 150 grammes



**Fermenting maca** enhances its nutritional value by increasing the **bioavailability** of its nutrients. Our naturally fermented Peruvian maca root powder is an interesting product thanks to its rich nutritional profile and in particular its iron content. Add it to your smoothies, juices, yoghurts, baked goods and herbal teas.

**HEALTH CLAIMS (EU Regulation 432/2012):** Maca is a source of energy that supports both **physical and mental performance**, while also helping you to maintain optimal levels of **stamina and vitality**.

**Ingredients:** fermented maca root (*Lepidium meyenii*).

<b>Nutritional information:</b>	<b>Per serving 3 g</b>	<b>Per 100 g</b>
<b>Energy (kJ/kcal)</b>	46/11 g	1.548/370 g
<b>Fat</b>	0,1 g	3,5 g
Saturates	0,0 g	0,5 g
<b>Carbohydrate</b>	2,1 g	70,0 g
Sugars	0,0 g	1,0 g
<b>Fibre</b>	0,0 g	14,0 g
<b>Protein</b>	0,4 g	7,0 g
<b>Salt</b>	0,0 g	0,1 g
Iron	2,2 g (16%*)	72 g (514%*)

\*NRV: Nutrient Reference Value in %.

#### Size and format:

150 g.

#### Recommended daily dose:

1 teaspoon (3 g) per day

Do not exceed the stated recommended daily dose.

#### Indications and uses:

- It gives you energy and improves your physical endurance.
- It improves the male reproductive function.
- It helps with menopause, osteoporosis and anaemia.

Maca is a plant that is native to the Andean highlands, with the indigenous Peruvian Quechua Indians referring to it as "fortifying food grown in the mountains".

The hostile climate and altitude have made it adapt to the beneficial compounds that it possesses. It was mainly used by local people as food, which is why New Roots Herbal has chosen to add maca to its range of fermented products and offer you the best of this traditional superfood.

Maca, a superior nutritional ancestral tuber, which is also called "Peruvian ginseng", offers a complex blend of nutrients. Fermentation increases the nutritional value of maca and increases the bioavailability of its nutrients.

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The main benefits that are offered by fermented foods are indicated below:

- Water-soluble forms are produced, which result in improved digestion and, likewise, the acidification process results in improved mineral absorption.
- A rebalanced nutritional profile due to the reduction of sugar content and the increase in proteins and polyunsaturated fatty acids.
- Bioactive forms are created that do not require metabolism.
- A probiotic effect is produced, which improves intestinal flora and digestibility, supplies vitamins and supports the immune system.
- Pathogenic organisms are eliminated through bacteriocins or the lactic acid that is generated in the process, and anti-nutritional or potentially harmful substances are inhibited.

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- Fermented foods are not only preserved for long periods of time, but they also acquire unique and enhanced organoleptic and nutritional properties.

## FERMENTED MACA:

### **Benefits of fermentation:**

It increases nutritional value by increasing the bioavailability of nutrients, with a high iron content.

### **Traditional use:**

In the Andes fermented maca has traditionally been consumed as a beer-like beverage known as "chicha de maca"<sup>(1)</sup>.

### **Health applications:**

It improves physical endurance by minimising muscle and liver damage, and improves male reproductive function by increasing sperm count<sup>(2)</sup>. It can also help in menopause, osteoporosis and anaemia<sup>(3)</sup>.

This plant is distinguished by the underground part, the hypocotyl and the root, which constitutes the storage organ for primary and secondary metabolites. The primary metabolites make up the plant's nutritional content, providing a large amount of protein, fibre, minerals (calcium, iron, copper and zinc, among others), vitamins B1, B2 and B3 and 20 amino acids and 20 free fatty acids. Secondary metabolites include sterols, alkaloids, glucosinolates, macaenes and macamides, with the latter having been defined as chemical markers of maca's biological activity. These are compounds that act on the hypothalamus and adrenal glands, regulating hormone levels and producing an energy and virility-enhancing effect.

Several studies have shown that the colours of maca are associated with variations in concentrations of different bioactive metabolites, with each variety providing different biological effects. There are thirteen different ecotypes, with yellow being the most common and most widely cultivated variant in the Central Andes region<sup>(4)</sup>.

Maca is widely reputed to be an aphrodisiac for men and women, and it is said to improve erectile function and increase libido<sup>(5,6)</sup>. Yellow maca improves daily sperm production and also increases sperm motility<sup>(7)</sup>. There is clear evidence to suggest that consuming yellow maca increases sperm volume, sperm count and sperm motility. It also increases the number of motile sperm without affecting the luteinising hormone (LH), follicle stimulating hormone (FSH), prolactin, oestradiol and testosterone levels<sup>(8,9)</sup>.

Yellow maca also helps with cognitive function by improving memory and facilitating learning processes<sup>(10,11)</sup>. Other studies have confirmed that due to its high B-vitamin content, yellow maca reduces oxidative brain damage (lipoperoxidation) and depression and anxiety scores, even in postmenopausal women<sup>(12,13)</sup>.

Administration of the yellow ecotype results in improved physical endurance, which is measured in terms of time to fatigue, due to the increase in cellular oxygenation<sup>(14)</sup>. Various studies have confirmed the performance-enhancing effect of maca as an energiser among athletes<sup>(15-17)</sup>.

With regards to metabolism, yellow maca lowers glycaemia, increases insulin levels, improves lipid profile and increases glucose tolerance<sup>(17,18)</sup>.

Villagers who traditionally consume maca have lower systolic blood pressure levels than those who do not<sup>(19)</sup>. Maca also contains high amounts of potassium, which is an important nutrient to reduce the risk of hypertension. As a primary metabolite it may be useful in patients with hypertension. Many studies have confirmed maca's antioxidant power, associating it with better health and anti-ageing scores<sup>(6)</sup>.

Many in vitro studies have indicated its safe usage, given that consuming dry extract of the plant does not cause hepatotoxicity, and no side effects have been recorded in the results of in vivo studies, considering that maca has been used for centuries in the Central Andes of Peru<sup>(20)</sup>.

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