



PRODUCT SHEET

Maca (*Lepidium meyenii* Walp.)

FAMILY : Cruciferae (Crucifer Family) = Brassicaceae (Mustard Family)

Common names: "maca", "Peruvian ginseng", "pepper grass", "pepper weed", "mace".

SPANISH: *Perú* "maca", "maka". **QUECHUA:** "maca", "maca-maca", "maka". **OTROS:** "maino", "maka", "ayak chichira", "ayak willku".

DESCRIPTION: An herbaceous, annual, biennial or perennial plant, with an enlarged tuberous, fleshy underground organ (not a tuber nor a bulb) formed by the taproot and the lower part of the hypocotyl; these parts of the plant swell during growth, forming a storage organ resembling a turnip (this is the edible part of the plant and varies between 2 cm and 5 cm in size). It presents numerous lateral roots that are very thin and white-colored, and extend up to 15 cm long. Actually, the main stem is very reduced, almost imperceptible. Leaves polymorphic; the basal leaves are rosulate, 5 cm long, petiolated and bipinnatifid; the central leaves are 3 cm long and bipinnatifid; and the apical leaves are slightly divided, 1 to 2 cm long. Inflorescence in simple, short, apical and axillary raceme; there are also axillary flowers that do not form clusters. The flower is tiny, complete and hypogyne; they have 4 concave sepals, and 4 small white petals; ovary bicarpelar. Fruit silicule (short silique), dry, slightly marginated at the apex, 3 to 5 mm long and 2.5 mm wide, 2-valved, each valve containing only one seed in each cell; when mature, the fruits will initiate dehiscence; then, the dry pericarp separates in 3 parts and the central, persistent part maintains the seeds linked until they are released.

ORIGIN AND DISTRIBUTION: a South American plant, native to the Peruvian Central Andes (Cerro de Pasco, Junín, Tarma, Jauja, Concepción and Huancayo). 'Maca' develops in dry, cold weather between 4,000 m and 4,500 m above sea level, in poor and rocky sedimentary soils of limestone and dark clay.

USED PARTS: The main edible part is the hypocotyl/root.

PROPERTIES: antirrhematic, antifatigue, antitumor, aphrodisiac, energizer, fertilizer, food, immunostimulant, memory enhancer, menstrual, nutritive, sexual strength magnifier, revitalizant, tonic, increases endurance in athletes, increases stamina, promotes mental clarity, reestablishes physical and intellectual capacities, stimulates hair growing. Against anemia, chronic constipation, chronic fatigue syndrome, convalescence, female hormonal disorders, infertility, growth disorders, hair loss, male impotence, malnutrition, menopause disorders, menstrual irregularities, mental deficit, nervousness, osteomalacia, osteoporosis, rheumatism, sexual impotence, sterility, stomach cancer, tuberculosis, weakness.

PHYTOCHEMICALS: alkaloids, starch, amino acids (histidine, lysine, leucine, phenylalanine, glutamic acid, serine, asparagine, tyrosine, isoleucine, threonine, arginine, proline), ash, beta-ecdysone, carbohydrates, cellulose, phenolic compounds, coumarins, fats, fiber, flavonoids, fructose, glucosinolates, glycosides, benzyl isothiocyanate, isothiocyanate, levulose, lignin, maltose, minerals (calcium, copper, iron, iodine, manganese, potassium, sodium, zinc, magnesium, phosphorous), p-methoxybenzyl isothiocyanate, polypeptides, saponins, sitosterol, sterols, stigmasterol, steroid substances, tannins, triterpens, vitamin B1, B2, B6, B12, C, and E.