

Meissen's bedbug, or Maca Peruvian: the contribution of science to the optimal nutrition

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Lepidium meyenii Walpers (maca peruvian): the contribution of science in optimum nutrition

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SUMMARY

As a result of studies, it has been proven that residents of the age category from 40 to 75 years old who consume the roots of the Meissen bug plant, or Peruvian maca (*Lepidium meyenii* Walpers) in Caruamayo, do not observe a decrease in the integral health indicator, assessed by means of an adapted questionnaire, while residents of the same the very zone that do not use poppy seeds, there is a decrease in this indicator. It has been determined that red maca helps reduce osteoporosis and benign prostatic hyperplasia, while black maca increases sperm count, improves memory and learning, and slows down the onset of fatigue symptoms.

Key words: Meissen's bedbug, Peruvian poppy, *Lepidium meyenii* Walpers, roots, food supplement, adaptogenic and aphrodisiac remedy, herbal medicine.

RESUME

As a result of studies it is proved that the inhabitants of the age group from 40 to 75 years who in Carhuamayo the roots of maca (*Lepidium meyenii* Walpers), do not have the reduction of the integral indicator of health, estimated by means of the adapted questionnaire, while the residents of the same zones, which do not use a maca, there is a reduction of this indicator. It was determined that the red maca contributes to the reduction of osteoporosis and benign hyperplasia of the prostate, while the black maca increases the number of sperm, improves memory and learning, slow down the symptoms of fatigue.

Keywords: *Lepidium meyenii* Walpers, maca, roots, nutritious food, adaptogenic and aphrodisiac medicines, phytotherapy.

Introduction

Meissen's bedbug, or poppy, Peruvian ginseng (*Lepidium meyenii* Walpers, sem. Cruciferous -Cruciferae) is a plant that grows on an altitude of over 4000 m in the central Andes region of Peru. Poppy

it is used as a food supplement, and due to its healing properties it is known in many countries of the world. Maca is a Peruvian traditional product with a leading export performance. So, the roots of Peruvian maca, dried in natural conditions, have been boiled and infused since antiquity for subsequent consumption by the population of the central region of the Andes.

This plant was first described in Peru in 1653 by the Jesuit chronicler, Spaniard Bernabe Cobo, in his book "History of the New World" [1], which mentions its nutritional value, as well as properties that increase the fertility of women. Cobo also reports that this plant grows only in the Central Andes zone of Peru. Maca is still cultivated in this region.

The purpose of this work is to scientifically substantiate the feasibility of the use of maca roots as a health remedy.

Material and methods

We studied the biological and physiological properties of the roots of the Meissen bug, or the Peruvian maca, grown in 2010 in Carhuamayo in the area at an altitude of 4100 m above sea level, and its effect on the health indicators of the population.

Results and discussion

In fig. 1 shows the plant's growing area in the Junin region (4100 m above sea level), and it can be noted that the above-ground part of the plant is very scarce, and it even seems that nothing grows in this place.

Poppy exists in nature in the form of various varieties, differing in the external color of the roots. The most common yellow poppy. In terms of scientific justification, the following maca varieties are being investigated to a greater extent: yellow, black and red. In fig. 2 illustrates the roots of a red poppy, and fig. 3 - black poppies.



Rice. 1. Plantation poppies.



Rice. 2. Dried roots of red poppy seeds.

In 2010, in Carhuamayo, an area at an altitude of 4100 m above sea level, where maca is traditionally grown, a group of researchers (Fig. 4) conducted a study to demonstrate the biological, physiological properties of maca and its impact on public health indicators. consuming maca compared to those who do not. In this study, it was shown that residents of the age group between 40 and 75 years old who consume maca in Caruamayo do not have a decrease in the integral health indicator, assessed by means of an adapted questionnaire, which occurs among residents of the same zone who do not use maca (Fig. 5) [2].

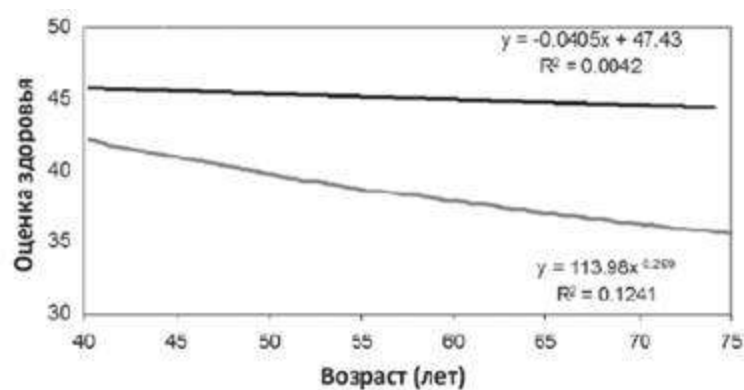
The study also revealed that 80% of Caruamayo residents consume maca; 85% of the population uses it for its nutritional value. Eating begins in childhood, using naturally dried roots. Consumption occurs mainly in the form of juice from a mixture of different varieties.



Rice. 3. Dried roots of black poppy seeds.



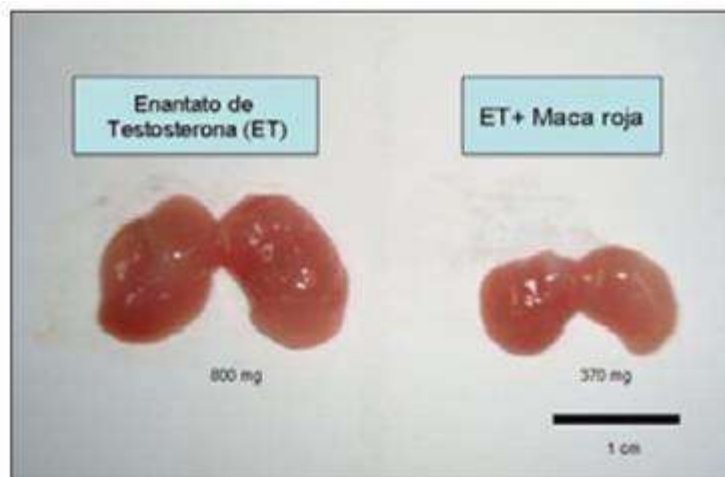
Fig 4. A group of maki researchers in Caruamayo.



Rice. 5. Integral indicators of health decrease with age (from 40 to 75 years old) among residents of Caruamayo (4100 m) who do not use maca (gray line). This is not

occurs in Maca users (black line).

As a result of scientific research, the properties of various varieties of maca have been identified. So, in experimental studies, the different biological effects of extracts of red and black poppy have been proven. For example, red maca helps to reduce osteoporosis and benign prostatic hyperplasia (Fig. 6), while black maca increases sperm count, improves memory and learning, and slows down the onset of fatigue symptoms [3].



Rice. 6. Left: rat prostate with artificially induced testosterone enanthate. hyperplasia. Right: rat prostate treated with testosterone enanthate and extract of red poppy. Red poppy prevents testosterone from acting enanthate for the size of the prostate.

Evidence that poppy leaves and roots protect the skin from solar radiation [4, 5] is only a small amount of evidence that this plant is a miracle of nature, and it grows in places where other plants do not survive.

The scientific substantiation of traditional knowledge of poppy has led to a significant increase in interest in its use, as evidenced by the export statistics of the state institution Promperu. Between 2002 and 2011 Maca exports increased from 1336132.96 to 6274680.20 US dollars. Its sales abroad in 2011 exceeded camu-camu and yacon by 8 times. Maca is a Peruvian traditional product that is a leader in export performance due to its medicinal and nutritional properties.

Thus, as a result of the research carried out, the expediency of using the roots of Maca Peruvian as a health remedy has been scientifically substantiated.

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