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# THE REVIVAL OF TARTARY BUCKWHEAT IN SLOVENIA

Maribor, 16 October 2012

World Food Day 16th October

AGRICULTURAL COOPERATIVES – KEY TO FEEDING THE WORLD

## COMMON BUCKWHEAT (Grey, Black, Darja, Petra, Darina, Gray Dolenjska ...)



Common buckwheat grain



White flowers of common buckwheat



Colorful Bread from common and Tartary buckwheat

**Growth areas:** Central and Eastern Europe (also Slovenia), Asia (Japan, China, Korea, India, etc...), J Africa, Canada, USA, Brazil, etc...

China 1.5 to 2 million ha

## TARTARY BUCKWHEAT ('BITTER' or 'COJZLA')



Tartary buckwheat grains



Greenish flowers



Buckwheat honey hearts

For over 30 years ago Tartary buckwheat was sown in Slovenia in Dolenjska region (Radohova vas), Gorenjska (the valley of Krma) and Koroška (Tolsti vrh).

**Growth areas today:** China, Bhutan, Korea, the Himalayas, Tibet, North Pakistan, other areas of Asia. China produces Tartary buckwheat on 1 to 1.5 million ha.

From the year 2010 the Tartary buckwheat is produced again at the Dolenjska region (around Šentjernej) in Slovenia.

## STRUCTURE AND NUTRITIONAL VALUE OF BUCKWHEAT

9-15% proteins  
1.6 to 3.3% fats  
65 - 75% starch  
4.3 to 5% fiber (soluble and insoluble)  
1.8 to 2.2% of mineral substances  
(Ca, K, P, Na, Mg, Fe, B, I, Cr, Cu, Zn, Mn, Se)

## SOME INTERESTING FEATURES

Buckwheat has a **high biological value** (93). **Buckwheat proteins** contain all the essential amino acids in a favourable ratio.

The buckwheat contains (slowly degradable) carbohydrates and it has a **low glycemic index** (54).

Buckwheat contains **phenolic compounds**:

- flavonoids (rutin, quercetin),
- various polyphenols and
- tannins.

Species and varieties differ in the content of phenolic compounds.

Recently a special attention has been given to the potential therapeutic activity of polyphenolic compounds:

- **antioxidant,**
- **antimicrobial,**
- **antiviral,**
- **anti-inflammatory,**
- **antiallergic,**
- **anticarcinogenic.**

Polyphenolic compounds reduce: **blood pressure, cholesterol and blood glucose.**

## FLAVONOIDS AND RUTIN - a comparison between common and Tartary buckwheat

Tartary buckwheat contains:  
0.70 to 4.47% flavonoids / dmb;  
to 1.75% rutin / dmb.

Common buckwheat contains:  
0.02 to 0.05% flavonoids / dmb;  
0.0026% rutin / dmb.

Tartary buckwheat contains much higher level of flavonoids than common buckwheat.

Products from Tartary buckwheat have a special bitterness.



A buckwheat field

BUCKWHEAT HONEY HEARTS	COLORFUL BUCKWHEAT BREAD
<p><b>DOUGH:</b>            700 g Tartary buckwheat flour            300 g white wheat flour type 500            250 g butter or margarine            250 g of powdered sugar            300 g of honey            0.3 dl water            150 g eggs (3)            lemon peel (organic)            15 g of baking soda            4 g spices for gingerbread</p> <p><b>PRODUCTION:</b>            Heat honey, sugar and water to 40 °C, add the eggs and fat mixture, mix well. Add the sifted buckwheat flour with baking soda and spices.            Roll out to a thickness of 1cm and cropping hearts.            Bake at 180-190°C.            After baking, spread the egg white or chocolate icing.</p> <p>Instead of Tartary buckwheat flour can be used common buckwheat flour.</p>	<p><b>Buckwheat bread</b>            0.30 kg of common buckwheat flour (heat-treated with 0.4 liters of boiling water - cooled)            0.7 kg of wheat flour type 850            30 g of yeast            18 g salt            10 g sugar            0.3 l of water</p> <p><b>White bread</b>            1 kg white wheat flour type 500            20 g of yeast            18 g salt            10 g sugar            10 g margarine            0.65 to 0.7 l of water</p> <p><b>Tartary buckwheat</b>            0.3 kg Tartary buckwheat flour            0.7 kg wheat flour type 850            30 g of yeast            18 g salt            10 g margarine            0.65 to 0.7 l of water            Prepare three types of dough, place on each other and roll up and put in the model.</p>

Let the recipes from THE EDUCATION CENTRE PIRAMIDA MARIBOR make your day sweeter and feel welcome to visit our shop at Park mladih 3 in Maribor (Entrance in Ljubljanska ulica).



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