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The hulless barley variety 'Kornelija' – high-quality wholegrain raw material for developing niche and functional products

KORNELIJA

In the rapidly growing dietary product market the biochemical properties of raw materials are key, especially those that preventively address or help mitigate the health problems of consumers**.**

Hulless barley variety 'Kornelija' have unique biochemical composition which is suitable for production of high-quality traditional products as well as specific dietary and functional product production.

Advantages of the hulless barley variety 'Kornelija'

Agronomic

- ❖ Early ripening and coarse grains
- ❖ Produce high quality grains also in low-input and organic farming system

Processing

- ❖ Excellent hullessness: ensures 10-12% higher grain product outcome from one ton of grains
- ❖ Saving resources on grain processing, keeping, transportation: less waste and needs less energy consumption

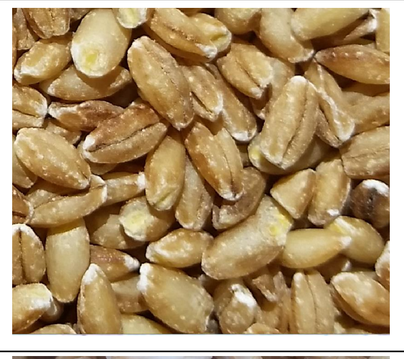
Hulless barley variety 'Kornelija' grown under organic crop rotation, , AREI Stende Research Centre, 18.06.2019

Trait	Hulless barley 'Kornelija'
Protein,%	15.3±2.9
Dietary fibre%,	19.47±2.99
β-glucans,%	5.30±0.6
Total fats,%	2.35±0.15
E vitamin (α-tocopherol), mg kg^{-1}	8.18±1.84
Total phenolic compounds; mg GAE 100 g DW	196.8±19.1
DPPH anti-radical activity, %	74.7±0.42
Zn, mg kg-1	30.5±13.5
Cu, mg kg^{-1}	4.10±1.6
Mg, mg kg^{-1}	1147.0±88.0
Fe, mg kg^{-1}	40.4±8.5

** Published results in the References*

Basic chemical composition of 'Kornelija' grain, processed and cokked food products

Product		Parameter	%
Grain		Protein β-glucans Starch	20.84 6.15 47.91
Whole grain flour		Protein β-glucans Starch	20.19 5.14 55.07
Flakes		Protein β-glucans Starch	20.39 5.93 53.5

Product		Parameter	%
Pot Barley		Protein β-glucans Starch	19.30 6.12 56.76
Pot barley /cooked		Protein β-glucans Starch	19.98 6.29 55.56
Vaffles		Protein β-glucans Starch	16.4 4.92 38.42

Due to high-quality biochemical composition and nutritional value the hulless barley variety 'Kornelija' is positioned as a high-quality grain raw material to be used in the production of niche and functional food

Activities of the Project	Contacts for collaboration
Studying the properties of grain raw material/end products and optimizing the technological process of processing	***Vita Šterna*** vita.sterna@arei.lv
Preparing the commercialization offer and promoting it in priority markets	***Andris Lismanis*** andris.lismanis@arei.lv

- ❖ Collaboration with the grain processing and food manufacturing companies
- ❖ Experimental development of the prototypes of new products
- ❖ Verifying the suitability of 'Kornelija' for various technological processes and opportunities in the development of new niche and functional products.

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