Dietary value of new variety in Latvia originated naked oat

Meija Laila[1,2] , Jakobsone Ida[1], Zute Sanita[3]

[1]*Food Chemistry Centre, Department of Chemistry, University of Latvia, Kr. Valdemara Str. 48, LV-1013 Riga, Latvia*; [2]Pauls Stradins Clinical University Hospital, Riga, Latvia,; [3]*State Stende Cereals Breeding Institute, Talsu region, LV–3258 Dizstende, Latvia*

BACKGROUND

Study in Latvia:

Establishment of new scientific group for multi-branch research In Latvia for assessment of local cereal material on characteristics determining the dietary potential and their use possibilities in the prevention of chronic bowel diseases.

- Breeding and investigation of crops
- Producing breakfast cereals
- Clinical study : intervention study with outs flakes
  - inflammatory bowel disease
  - irritating bowel disease
  - controls

Objective: to assess biologically active substances in oat variety «Stendes Emilija»

Description of naked oat variety «Stendes Emilija»

Genotype	Origin	Description
Breeding line 'S-156' (Selma/Nos Nacht)	State Stende Cereal Breeding Institute, Latvia Variety applied to registration 2015	Grain yield – 3.5-4.5 t ha^{-1}, grains very well separated from the husk, ripening 105 – 112 day after sowing, good lodging resistance; grain technological quality – test weight 580 – 620 g l^{-1}, 1000 grain weight – 28.7 – 32.1 g, high protein content, unshelled grains <3%

Characteristic of naked oat variety 'Stendes Emilija' according to its nutritional traits, 2011-2014, data from Stende Cereal Breading Institute

Traits	Min	Max	Mean ±SD
Grain macronutrients			
Crude protein, g kg^{-1} DM	159.5	182.2	169.2 ± 7.1
Starch, g kg^{-1} DM	35.2	40.1	38.6 ± 3.1
Crude fat, g kg^{-1} DM	81.5	112.7	96.9 ± 13.8
B-glucan, g kg^{-1} DM	34	46.3	38.9 ± 3.7
Grain micronutrients			
α-tocopherol, mg kg^{-1} DM	6.9	12.3	8.5 ± 2.7
Total phenolics, mg gallic acid equivalents/GAE 100 g^{-1} DM)	142.7	167.5	158.2 ± 6.3
Radical scavenging activity, %	25.1	27.4	26.1 ± 2.5

Naked oats XX oats

CONCLUSIONS. Results suggest considerable potential antioxidative and antiinflammatory activity of *Avena sativa L* in patients with inflammatory bowel disease and irritated bowel syndrome as well.

Study is co-fund by the European Social Fund project No.2013/0072/1DP/1.1.1.2.0/13/APIA/VIAA/032