



Quality and safety evaluation of breakfast cereals made from triticale and/or hull-less spring cereals

Key expert: Dr. sc. ing. Dace Klava

Latvia University of Agriculture

Faculty of Food Technology

dace.klava@llu.lv

WP3

The aim of WP3 is to evaluate quality and safety of breakfast cereals made from triticale and/or hull-less spring cereals selected in WP1 and quality changes occurring during product storage time.

- **Calculate recommended nutritional value**

High protein, low glycemic index (GI)

- **Evaluate sensory properties of new products**

- **Analyze physical and chemical parameters of new products**

Moisture, Water activity, Texture, Colour

- **Analyze content of nutritional substances and antiradical activity**

Carbohydrates, proteins, lipids, dietary fibre, amino acids, vitamins - group B , vitamin C, total phenols, flavanoids.

- **Evaluate microbiological safety of new products immediately after production and during the storage time**

Total count of mesophylic aerobic and facultative anaerobic microorganisms ,Yeasts and moulds, Total Count of Enterobacteriaceae, Micotoxin.

Evaluate sensory properties

- **Key researcher** – Dr. sc. ing. E. Straumite
- **Samples - 5**
- **Periodicity** (5 time)
 - Control (**Oktober**)
 - 1st time **December**
 - 2nd time **February**
 - 3rd time **April**
 - 4th time **July**
 - 5th time **Oktober**



Analyze physical and chemical parameters of new products

- Key researcher – Dr. sc. ing. M.Sabovics
- Samples – 5
- Periodicity (5 time)
 - Control (Oktober)
 - 1st time December
 - 2nd time February
 - 3rd time April
 - 4th time July
 - 5th time Oktober
- Analyzes
 - Moisture
 - Water activity
 - Texture
 - Colour



Content of nutritional substances and antiradical activity

- **Researcher** – Dr. sc. ing. I.Cinkmanis
 - **Samples** – 5
 - **Periodicity** (3 time)
 - **Analyzes**
 - Carbohydrates (starch and sugars)
- **Researcher** – Dr. sc. ing. I.Gramatina
 - **Samples** – 5
 - **Periodicity** (3 time)
 - **Analyzes**
 - proteins,
 - lipids,
 - dietary fibre
- **Researcher** – Dr. sc. ing. Z.Kruma
 - **Samples** – 5
 - **Periodicity** (3 time)
 - **Analyzes**
 - total phenols
 - flavanoids
 - antiradical activity

Aminoacids
Vitamin B group
Vitamin C

Evaluate microbiological safety

- **Key researcher** – Dr. sc. ing. D.Klava
- **Samples** – 5
- **Periodicity** (5 time)
 - Control (**Oktober**)
 - 1st time **December**
 - 2nd time **February**
 - 3rd time **April**
 - 4th time **July**
 - 5th time **Oktober**
- **Analyzes**
 - Yeasts and moulds
 - MAFA microorganisms
 - Total count of Enterobacteriaceae

Micotoxin

Aflatoxin (B1 and total)
Ochratoxin A
Zearalenone
Deoxynivalenol (DON)
HT-2/T-2.

Thank you!!!