

Sample preparation by microwave digestion of the Institute of Public Health in Ljubljana



Apparatus for very accurate determination of elements at the Institute of Public Health

PLACE	ZINC Zn		LEAD Pb		CADMIUM Cd	
	mg/kg		mg/kg		mg/kg	
Medvode (Ljubljana)	2,08	2,16	< 0,04	< 0,04	0,04	0,04
Kanal (Nova Gorica)	2,23	2,20	< 0,04	< 0,04	0,02	0,02
Gorjuše	2,42	2,42	< 0,04	< 0,04	0,05	0,04
Podhom	2,62	2,50	< 0,04	< 0,04	0,02	0,02
Petrovče (Celje)	3,36	3,27	< 0,04	< 0,04	0,07	0,07
Mežica	3,55	3,37	< 0,04	< 0,04	0,04	0,04
Hajdina (Ptuj)	2,96	2,84	< 0,04	0,04	0,04	0,04
Trgovišče (Ormož)	4,26	4,33	< 0,04	< 0,04	0,03	0,03
Bereča vas	2,52	2,51	< 0,04	< 0,04	0,05	0,06
Pamplona (Španija)	2,62	2,70	< 0,04	< 0,04	0,02	0,02

The results of the content of zinc, lead and cadmium in potatoes

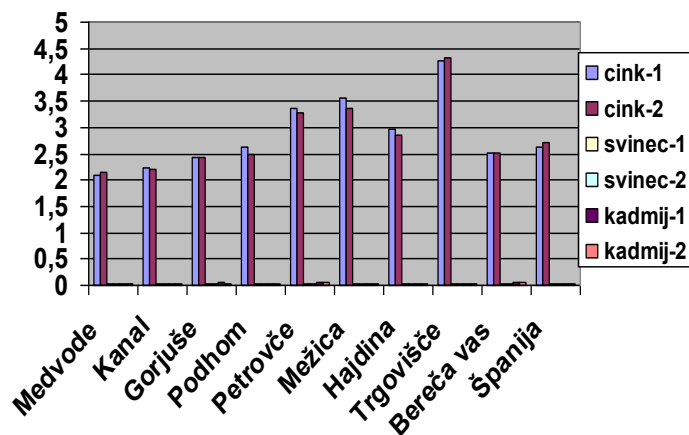


Chart of zinc content of the potatoes in mg/kg



FIRST INTERNATIONAL SCIENTIFIC  
CONFERENCE / CONFERENCE:  
NUTRITION, EVOLUTION AND HEALTH  
Rakičan, Slovenia  
October 20–22 2010

# Chemistry in the International Comenius



Metka Lampret,  
Teacher of Chemistry

Geel, Belgium  
March 13-19 2011

# About the Project

- The Project lasted two school years, 2009/2010 and 2010/2011
- The title of the project is Super Supper
- In the project are involved students and teachers from schools in:
  - Barcs, Hungary
  - Geel, Belgium
  - Marsala, Italy - Sicily
  - Pamplona, Spain
  - Ljubljana, Slovenia

## The project goals:

- examination of eating habits and exercising of students and analysis of the results
- choice and preparation of the national dish
- investigation into the chemical composition of food
- calculation of the calorific value of food
- discussion about OMG produced vegetables and fruit
- promotion of healthy life style among teenagers

### Origins and places of metals in Slovenia

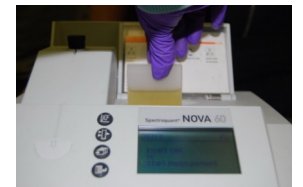
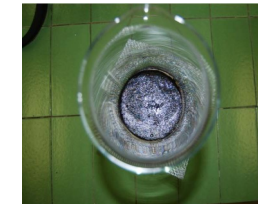
Fe	Hg	Pb	Zn	Al	<sup>235</sup> U
15 <sup>th</sup> cent.	15 <sup>th</sup> cent.	17 <sup>th</sup> cent.	1970	1942	od 1982 do 1990
	Idrija	Mežica	Celje	Ptuj	Žirovski vrh

### Maximum levels of metals in soil, water and food

METAL	LIMITS IN UNCONTAMINATED SOIL mg/kg	AVERAGE LIMITS IN SURFACE WATERS mg/L	LIMITS IN FOOD UNDER REGULATION (EC) NO. 1881/2006 mg/kg
Zn	80	0,100	no limits
Pb	13	0,010	0,10
Cd	< 1	0,001	0,10

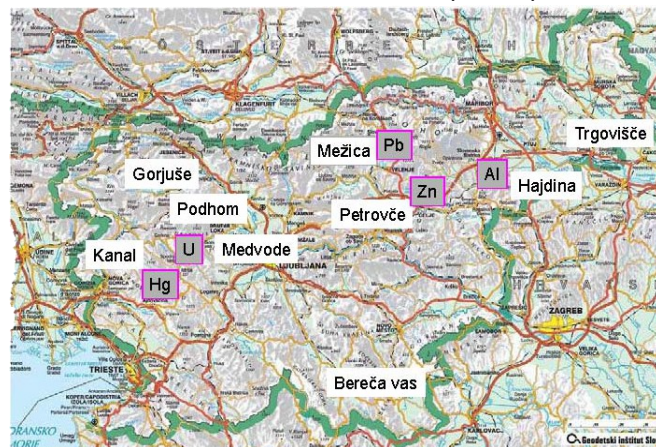


Pre-treatment of potatoes with a wet-oxidative acid mineralization



SAMPLE PREPARATION FOR MEASUREMENT BY PHOTOMETER

### Extraction of metals and outlet samples of potatoes



Part of the chemical circle in the school year 2009/10



Spanish students and students of the class 3.e. in chemical workshop