

Alergeni u hrani : Europski zahtjevi i trendovi

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Business Development Executive

- Regulatorni zahtjevi označavanja alergena
- Predostrožno označavanje alergena (PAL's)
- Obavješćavanje o alergenima u hrani
- Nedavni slučajevi i pravne posljedice
- Trendovi u budućnosti

Međunarodni regulatorni zahtjevi za alergene

Globalno regulatorna tabela

International Allergens	USA	Canada	EU	Australia/New Zealand	Hong Kong	China	Japan*	Korea	Argentina	Bolivia	Chile	Colombia	Costa Rica	Cuba	Mexico	Nicaragua	Venezuela
Crustacean Shellfish	X	X	X	X	X	X	X (Crab, Shrimp, Prawn)	X (Crab, Shrimp, Prawn)	X	X	X	X	X	X	X	X	X
Egg	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Fish	X	X	X	X	X	X		X (Mackerel)	X	X	X	X	X	X	X	X	X
Milk	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Peanut	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Soy	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X
Tree nuts	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X
Wheat	X	X	X	X		X	X	X		X		X	X	X		X	X
Cereals with Gluten		X	X	X	X				X	X	X	X	X	X		X	X
Buckwheat							X	X									
Celery			X														
Lupin			X														
Molluscan Shellfish		X	X	X													
Mustard		X	X														
Sesame		X	X	X													
Sulfites	≥10 mg/kg	Directly added or ≥10 mg/kg	≥10 mg/kg	≥10 mg/kg	≥10 mg/kg				≥10 mg/kg	≥10 mg/kg	≥10 mg/kg	≥10 mg/kg	≥10 mg/kg	≥10 mg/kg	≥10 mg/kg	≥10 mg/kg	≥10 mg/kg
Bee Pollens/Propolis				X													
Royal Jelly				X													
Peach								X									
Poik								X									
Tomato								X									

* = Voluntary labeling recommended for 20 other foods

Source : FARRP website : <http://farrp.unl.edu/f0c3a875-ce07-404f-b05f-8a7983e57daa.pdf>

Europske FIR odredbe

- Regulativa br. 1169/2011. Prihvaćena u EU 2011., stupila na snagu 2014.
- Označavanje se odnosi i na prethodno-pakiranu hranu
- Nacionalna uredba određuje koje informacije prehrambena industrija mora predočiti potrošačima za alergene navedene u Annex II

ANNEX II

SUBSTANCES OR PRODUCTS CAUSING ALLERGIES OR INTOLERANCES

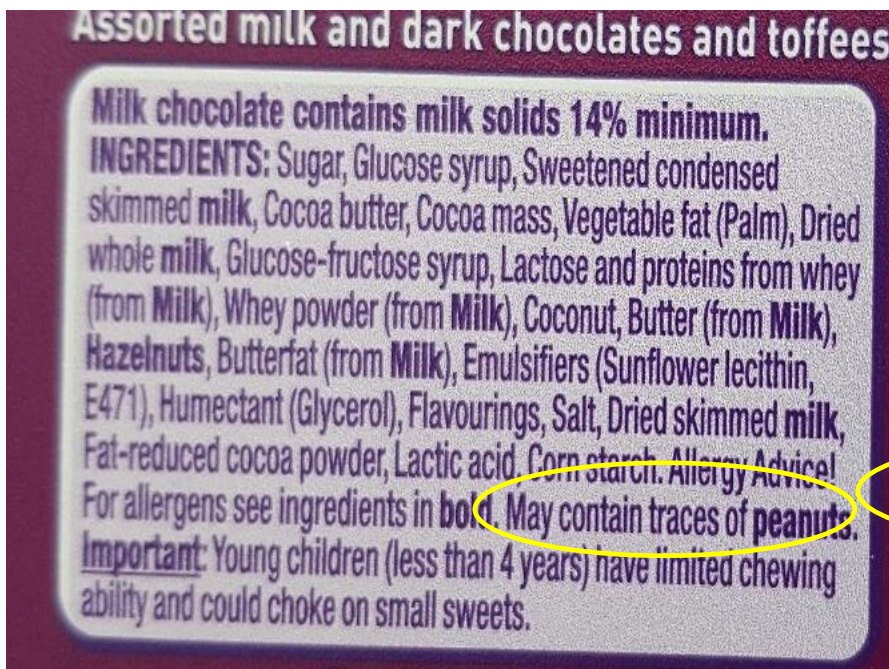
1. Cereals containing gluten, namely: wheat, rye, barley, oats, spelt, kamut or their hybridised strains, and products thereof, except:
 - (a) wheat based glucose syrups including dextrose (!);
 - (b) wheat based maltodextrins (!);
 - (c) glucose syrups based on barley;
 - (d) cereals used for making alcoholic distillates including ethyl alcohol of agricultural origin;
2. Crustaceans and products thereof;
3. Eggs and products thereof;
4. Fish and products thereof, except:
 - (a) fish gelatine used as carrier for vitamin or carotenoid preparations;
 - (b) fish gelatine or isinglass used as fining agent in beer and wine;
5. Peanuts and products thereof;
6. Soybeans and products thereof, except:
 - (a) fully refined soybean oil and fat (!);
 - (b) natural mixed tocopherols (E306), natural D-alpha tocopherol, natural D-alpha tocopherol acetate, and natural D-alpha tocopherol succinate from soybean sources;
 - (c) vegetable oils derived phytosterols and phytosterol esters from soybean sources;
 - (d) plant stanol ester produced from vegetable oil sterols from soybean sources;
7. Milk and products thereof (including lactose), except:
 - (a) whey used for making alcoholic distillates including ethyl alcohol of agricultural origin;
 - (b) lactitol;
8. Nuts, namely: almonds (*Amygdalus communis* L.), hazelnut (*Corylus avellana*), walnut (*Juglans regia*), cashews (*Anacardium occidentale*), pecan nut (*Carya illinoensis* (Wangenh.) K. Koch), Brazil nut (*Bertholletia excelsa*), pistachio nut (*Pistacia vera*), macadamia or Queensland nut (*Macadamia ternifolia*), and products thereof, except for nuts used for making alcoholic distillates including ethyl alcohol of agricultural origin;
9. Celery and products thereof;
10. Mustard and products thereof;
11. Sesame seeds and products thereof;
12. Sulphur dioxide and sulphites at concentrations of more than 10 mg/kg or 10 mg/litre in terms of the total SO₂ which are to be calculated for products as proposed ready for consumption or as reconstituted according to the instructions of the manufacturers;
13. Lupin and products thereof;
14. Molluscs and products thereof.

Annex II navodi 14 alergena u hrani koji moraju biti označeni kada su kao sastojak prisutni u hrani

Prisustvo ovih alergena mora se istaći na neki način potrošačima

Primjer opisa npr. Maslac (Mlijeko)

PALs ?



UK FSA agencija preporuča:

“može sadržavati xxx” ili “ne preporuča se ljudima sa xxx alergijom”

'Baffling' allergy labels put health at risk, experts warn

Daniel Selwood

Precautionary allergen labelling is confusing sufferers, limiting shopping choices and leading to some doctors giving health-threatening advice, food safety experts have warned.

Having found about 50 versions of precautionary allergen statements on food products, The Institute for Food Safety Integrity & Protection and the Food Standards Agency have come together in a working group to establish an industry-led position on clear labelling.

The FSA recommends just two allergy warnings: 'may contain XXX' and 'not suitable for someone with XXX allergy'. It claimed the



A working group is attempting to establish an industry-led position on clear labelling

"many" different statements used by retailers and suppliers were causing confusion.

"None of these statements suggest that one is more safe than the other, but it can lead consumers

to make decisions that are not based on a consistent approach," it said.

Food safety expert Dr Lisa Ackerley, who sits on the TIFSIP working group, warned precautionary labelling meant

some consumers were avoiding products that were, in reality, harmless. At the other end of the spectrum, medical experts were telling allergic patients they could safely ignore products

with 'may contain'-style notices that might pose a legitimate health risk.

The working group aims to develop a set of standardised rules for precautionary labelling by the end of 2016.

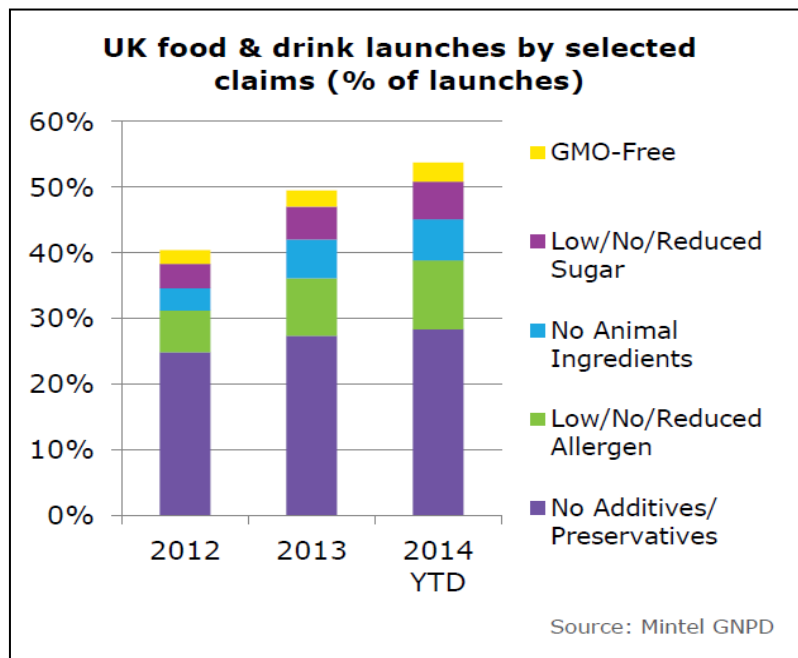
"We want to see this include a threshold of contamination which can be backed up by science when monitoring for the accidental presence of allergens in food," said an FSA spokeswoman.

Persuading food companies to voluntarily subscribe to standardised labelling would be tough, said TIFSIP head Jenny Morris, but she claimed "good businesses should want to do this".

The next step was a survey of suppliers to get their views, she said.

Source: The Grocer 20th Feb 2016

Rast tražišta “slobodno od ”



Većina potrošača u SAD koja se hrane bezglutenskom hranom nisu imali dijagnosticiranu celijakiju.

Percepcija - bezglutenska hrana je zdravija.

SAD, veliki je porast konzumiranja alternativnih mlijeka npr. mlijeko biljnog podrijetla

Obvještavanje o alergenima u hrani

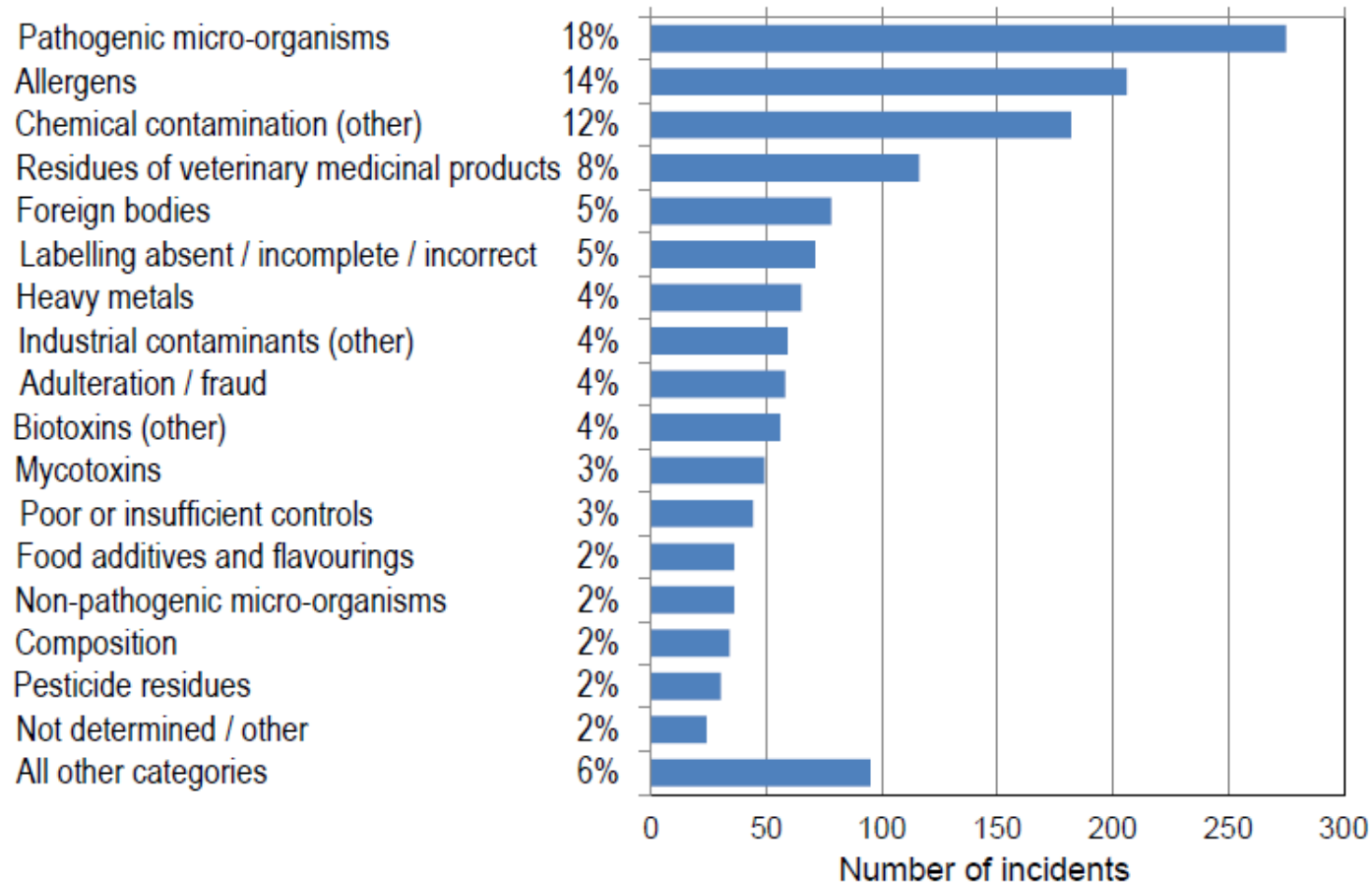
2015 notifications by hazard category and by classification

Hazard category	Alert	Border rejection	Information for attention	Information for follow-up	Total
Adulteration/fraud	1	89	3	6	99
Allergens	114	3	18	2	137
Biocontaminants	23	2	18	1	44
Biotoxins (other)	12		5	1	18
Chemical contamination (other)	2		2	4	8
Composition	51	19	22	26	118
Food additives and flavourings	17	55	32	36	140
Foreign bodies	43	23	14	30	110
GMO/novel food	4	18	3	20	45
Heavy metals	73	73	57	16	219
Industrial contaminants	21	3	14	15	53
Labelling absent/incomplete/incorrect	6	8	3	9	26
Migration	14	38	12	13	77
Mycotoxins	74	388	29	4	495
Non-pathogenic microorganisms	2	24	7	32	65
Not determined/other	5	5	1		11
Organoleptic aspects		25	3	10	38
Packaging defective/incorrect	5	6		6	17
Parasitic infestation		1	3	7	11
Pathogenic microorganisms	261	265	136	83	745
Pesticide residues	24	292	71	18	405
Poor or insufficient controls	2	70	7	9	88
Radiation		7	6	13	26
Residues of veterinary medicinal products	10	14	23	13	60
TSEs			2	19	21
Adulteration/fraud	1	89	3	6	99

Source: RASFF 215 Report

FSA UK Allergen Alert

Figure 2: Incidents by incident category: UK, 2015



Source: FSA 2015 Annual Report of incidents

Alergeni u hrani - Smrtnost



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What is Haydn's Wish?

Haydn's Wish is a charitable trust set up in memory of 9-year old Haydn Wilson, an asthma sufferer who died suddenly and unexpectedly from an anaphylactic reaction to peanut. Haydn and his family were not aware that he had an allergy.

The two main aims of Haydn's Wish are:

- To raise awareness of the link between asthma & allergies
- To raise funds for medical research into asthma & allergies

Although Haydn's Wish was first established as a local charity based in Newhaven, East Sussex, with close links to the Brighton and Sussex Medical School, recently we have been spreading our influence further afield.

We're proud of our national awareness programme, where we travel around the UK, visiting schools and exhibitions to talk to children parents, teachers about the link between asthma and allergies. And, of course, we can reach the rest of the world via our [Facebook](#) and [Twitter](#) accounts!

Haydn's Wish is dedicated to improving knowledge, and raising awareness, of the link between childhood asthma & potentially fatal allergies.



What is the mission of Haydn's Wish?

The mission of Haydn's Wish is to make children and their parents aware of the potential dangers of undiagnosed allergies.

Over 1.1 million children across the UK have been diagnosed with asthma ⁽²⁰¹⁵⁾

If your child develops symptoms such as allergies, eczema or hay fever, or you feel that their allergic reactions are getting worse, speak to your GP or another healthcare professional.

References

[6076] Asthma UK Facts Available at <http://www.asthma.org.uk/home-centre/facts-for-parents/>. Last accessed February 2016.

The Telegraph

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Indian restaurant owner charged with death of customer from peanut allergy

Paul Wilson, 38, was killed by anaphylactic shock after eating a curry from a takeaway which is believed to have contained the nuts

2K 0 124 2K Email



The Indian Garden in Easingwold. Photo: Ross Parry



By Sarah Knapton
7:21 PM GMT 25 Mar 2015

Shahida Shahid: Teen who died after allergic reaction 'told burger restaurant about allergies before meal'

21:42, 16 JAN 2015 | UPDATED 21:45, 16 JAN 2015 | BY DAN THOMPSON

The 18-year-old died after a meal at Almost Famous and initial tests revealed the provisional cause of death was brain damage caused by allergic reaction.

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Inquest: A teenager died after a severe allergic reaction, a court heard

Tragic teenager Shahida Shahid is thought to have told staff at a popular restaurant about her food allergies before eating there, an inquest has heard.

The 18-year-old died after a meal at the trendy burger bar Almost Famous and initial tests revealed the cause of death was brain damage caused by a severe allergic reaction.



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Dali smo dostigli točku preokreta?


Paul Wilson died after Mohammed Zaman swapped almond powder for cheaper one containing peanuts


Press Association


Tuesday 24 May 2016
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 Mohammed Zaman (r) seen leaving Teesside crown court. Photograph: Tom Wilkinson/PA

An Indian restaurant owner with a “cavalier attitude” to safety has been jailed for six years for the manslaughter of a customer with a peanut allergy, after he supplied him with a curry containing peanuts.

Paul Wilson, 38, was meticulous about his condition and asked for no nuts when staff at the Indian Garden, Easingwold, North Yorkshire, cooked his chicken tikka masala takeaway in January 2014.

Wilson, a bar manager, died from a severe anaphylactic shock. He was found slumped in the toilet at his home in Helperby.

Mohammed Zaman, the restaurant’s owner, was convicted of gross negligence manslaughter and sentenced to six years in jail after the jury at Teesside crown court was told he swapped almond powder in recipes for cheaper groundnut mix, containing peanuts, despite warnings.

The prosecution alleged Zaman, who owned six restaurants in York and North Yorkshire, was almost £300,000 in debt and cut costs by using the cheaper ingredient and by employing untrained, illegal workers.

Source: The Guardian Online

Paul Wilson, alergičan na kikiriki, umro je nakon konzumacije currya u restoranu.

Vlasnik, Mohammed Zaman, zamijenio je prašak badema za jeftiniji proizvod koji je sadržavao kikiriki

Mohammed Zaman osuđen je na šest godina zatvora zbog ubojstva

Alergeni - prag osjetljivosti

- Trenutno nisu definirani unutar zakonodavnih okvira
- Međutim, dostupni su klinički podaci o referentnim dozama alergena, od strane Europskih i međunarodnih studija
- 'Akcijska razina' koncept razvijen od strane VITAL-a koji se počinje primjenjivati kod nekih proizvođača hrane u Europi.

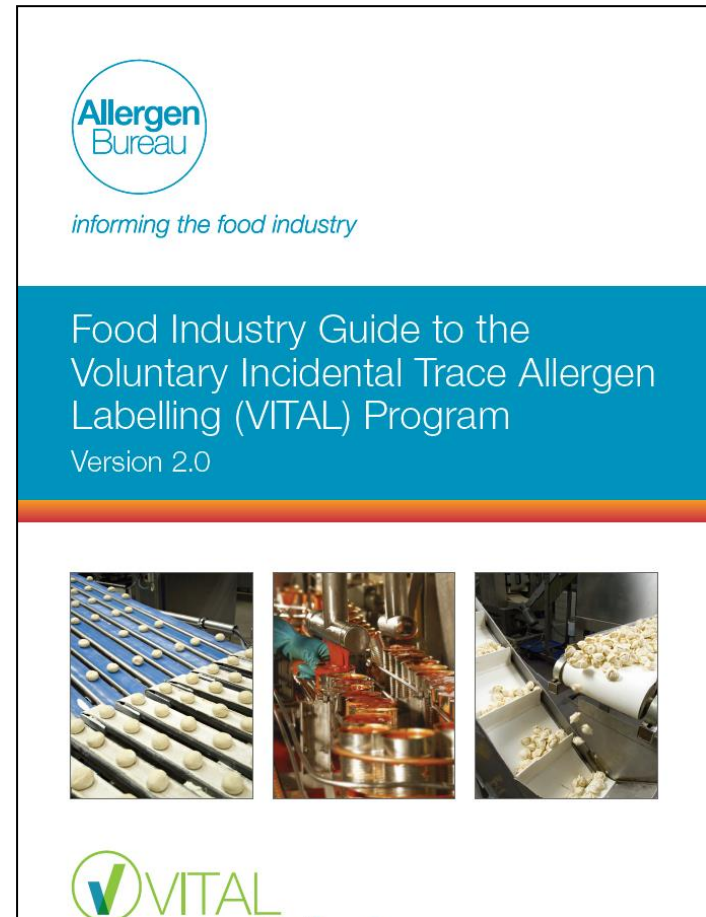
VITAL koncept

Primjenjuje “Akcijske razine” koncentracija koje proizlaze u označavanju svake „cross-contact” koncentracije alergena.

Akcijska razina je određena referentnim dozama i referentnom količinsko/upotrebnom veličinom.

Referentna doza se definira kao razina proteina u miligramima ispod kojih će samo najosjetljivije osobe - alergičari osjetiti štetne posljedice.

Source: <http://www.allergenbureau.net/>



Homogena ili heterogena kontaminacija?

Food Chemistry 216 (2017) 170–175



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Gluten-containing grains skew gluten assessment in oats due to sample grind non-homogeneity



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ABSTRACT

Oats are easily contaminated with gluten-rich kernels of wheat, rye and barley. These contaminants are like gluten 'pills', shown here to skew gluten analysis results. Using R-Biopharm R5 ELISA, we quantified gluten in gluten-free oatmeal servings from an in-market survey. For samples with a 5–20 ppm reading on a first test, replicate analyses provided results ranging <5 ppm to >160 ppm. This suggests sample grinding may inadequately disperse gluten to allow a single accurate gluten assessment. To ascertain this, and characterize the distribution of 0.25-g gluten test results for kernel contaminated oats, twelve 50 g samples of pure oats, each spiked with a wheat kernel, showed that 0.25 g test results followed log-normal-like distributions. With this, we estimate probabilities of mis-assessment for a 'single measure/sample' relative to the <20 ppm regulatory threshold, and derive an equation relating the probability of mis-assessment to sample average gluten content.

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1. Introduction

Celiac disease (CD) is a genetic autoimmune disease that affects approximately 0.2–1.0% of the population worldwide (Catassi & Fasano, 2008; Ludvigsson et al., 2013; Mooney et al., 2016; Mustalahti et al., 2010; Sanders et al., 2003). Its prevalence has continued to increase (Ludvigsson et al., 2013; Rubio-Tapia & Murray, 2010). CD patients cannot tolerate the gluten proteins in wheat, barley and rye, which trigger autoimmune damage of the small intestinal mucosa (Janatuinen et al., 1995). Consequently, CD patients have to strictly observe a gluten-free (GF) diet in order to avoid adverse consequences. In addition to CD patients, GF diets are attracting increased numbers of consumers, being viewed as

Rebello, O'Neil, & Greenway, 2016). They have a long history of human consumption and are considered one of the most important whole grains in one's diet (Jacobs & Gallaher, 2004; Slavin, Martini, Jacobs, & Marquart, 1999). There is abundant evidence to support that the consumption of oats or oat products provides health benefits (Cerio, Dohil, Magina, Mahé, & Stratigos, 2010; Kale, Hamaker, & Bordenave, 2014; Rebello, O'Neil, & Greenway, 2016). Regarding oat's suitability for CD patient consumption, there has been debate. For instance, although avenins, the storage proteins in oats, lack the well-recognized eptopes found in the corresponding gluten proteins of wheat, rye and barley (that can trigger autoimmune conditions (Londono et al., 2013)), there has been discussion whether certain amino acid sequences harbored in oat avenins

Ako neočišćenje nije homogeno, ono predstavlja izazov za uzorkovanje i analitičku analizu.

istovremeno, predstavlja izazov za procjenu rizika na osnovu praga osjetljivosti.

- Znatan broj incidenata uslijed alergije na hranu zabilježi se godišnje na nacionalnom i EU nivou
- U porastu su zahtjevi i svijest o alergenima u hrani u sektoru proizvodnje hrane
- Model procjene rizika na alergene u hrani dobrovoljno se prihvaća u nekim prehrambenim industrijama
- Tržište hrane na bazi “slobodno od ” kontinuirano raste