

szénhidrátokat, aszparagint és aszparaginsavat, és azokat magas hőfokon (>150°C) kezelik. Maga a vegyület egy Maillard típusú reakcióban keletkező, nem kívánatos átalakulási termék. Az Európai Unióban akrilamidra egyelőre nem vonatkozik határérték, de az előállítóknak törekedniük kell az akrilamid szint csökkentésére. A chipsek laboratóriumi vizsgálatának eredménye két terméknel a figyelmeztető szintnél magasabb értéket mutatott. A NÉBIH azonnal értesítette a felelős vállalkozókat a problémáról, akik intézkedtek a gyártási folyamat, illetve a technológiai probléma javítása kapcsán.



A hatósági ellenőrzés során a tápértékjelölésen szereplő zsír- és sótartalom mennyiségét is vizsgálták, hogy annak értéke megfelel-e a termékben megtalálható tényleges mennyiségnek. Sótartalom tekintetében minden termék megfelelt a csomagoláson feltüntetettnek. A laboratóriumi mérések egy chipsnél magasabb zsírtartalmat mutattak a tápértéktáblázatban feltüntetett értéknél, ami miatt a hatóság figyelmeztetésben részesítette a vállalkozást, amely köteles felülvizsgálni termékét és annak jelölését.

Természetesen a chipsek jelölését is vizsgálták a NÉBIH szakemberei. Több terméknel hibás volt a tápérték és az összetevők feltüntetése. Az ellenőrzött 10 chips közül összesen 6-nál találtak valamilyen jelölési hiányosságot, ami miatt a hivatal a vállalkozásokat figyelmeztetésben részesítette, és kötelezte a hibák kijavítására.

A Szupermenta tesztsorozat hagyományainak megfelelően a kedveltségi teszt sem maradhatott el. A kóstolás során laikus és szakértő kóstolók pontozták a termékek ízét, külső megjelenését, állományát, illatát és színét, kialakítva ezzel a sajtos chipsek rangsorát. A kedveltségi teszt eredménye alapján megállapítható, hogy a sajtos burgonyachipsek a várakozáshoz képest alul teljesítettek.

Első lett a Lay's Sajtos ízű burgonyachips, második a Pringles Sajtos ízesítésű snack, míg harmadik helyen a Chio Sajtos burgonyachips végzett.

További információk és a részletes vizsgálati eredmények elérhetők a NÉBIH Szupermenta termékteszt oldalán.

Increasing importance of the food industry

How does the Ministry of Agriculture support the food industry, what does NÉBIH do with the food safety tax, what are the latest market trends and retail experiences? These were not the only things the professional audience could learn about at the conference of the Hungarian Chamber of Agriculture (NAK) titled Food Processing and Trade, but they could also get to know a very exciting new project aimed at contributing to a boom in fish consumption with laboratory analyses and scientific research.

„Representing the interests of the food industry should play a more important role, for example, we continue to fight to restore the prestige of industrial food production, and for basic foods to have a VAT of 5%” – said Tamás Éder, vice president of NAK responsible for the food industry at the latest, Budaörs stop of the lecture series of the chamber, attracting high levels of participation, on October 24.

When presenting the 20-point action plan of the Ministry of Agriculture, Gábor Laszlovszky, head of the Food Processing Department also spoke about support for the food industry. As he said, they focus on quality regulation, development of the authorities and shaping consumer attitude, strengthen the role of NÉBIH, and place greater emphasis on sensory tests and regulatory changes. It was emphasized by Gábor Laszlovszky that, in Austria, the presence of a trademark is a primary consideration of consumers, in Hungary, they are barely known, there is still a lot to do in this area.

NÉBIH will continue to do everything it can for food safety: plans include, among other things, the development of the Budapest laboratory network, and continuing and strengthening the successful communication and customer information that started a few years ago – informed the audience Dr. Márton Oravec, chairman of NÉBIH, also speaking about the financial management of the organization. He said that, in 2016, 10% of the 11.76 billion HUF supervisory fee was used as a development budget, and the remaining ninety percent was shared by the government offices and NÉBIH in a 60 to 40 ratio. In connection with the work of the office he stressed that they receive 1 million samples annually, and on average, 2 million analyses are performed at 50 different sites. (Most of the analyses were Trichinella tests, extremely important from a food safety point of view. Ed.)

It is also thanks to these measures, that consumption in Hungary is up and consumers are becoming more and more confident. According to Nielsen's research, for FMCG products, Hungary had the

fourth largest growth in Europe (6.4%). As was reported by Dóra Hajnal, an analyst at Nielsen, within the group of food products, the increase in the consumption of cereals and fruit juices was exceptionally large. The increasing weight of discount chains and private label products was also highlighted by the expert. According to the surveys, nearly half of people are now search for different products in a health-conscious way, which is understandable in view of the fact that there are more than 3 million people in Hungary with food allergies or food intolerance.

Reporting on retail experiences, Csilla Zombory, head of quality and environmental management at SPAR said that one of the most important aspects of customers is a high quality, legible label. Also paramount is the traceability of the product, to which they pay a lot of attention.

„Next year, we will be able to buy fish products with a five percent VAT, which is expected to result in an increase in domestic fish consumption” – said Dr. Sándor Vadász, adviser to the Hungarian Chamber of Agriculture, also pointing out that, as a result of the news of the continual contamination of seawater, controlled freshwater fish farming is becoming more and more important.

The scientific basis for this can be provided by a recently launched research program, revealing in detail the factors influencing the quality of fish products, from the lake to the table. The state-funded project officially titled „Development of a new risk management model system to increase water and food safety in the fish product line”, shortly called HappyFish, is led by an independent testing laboratory, WESSLING Hungary Kft.

Dr. Adrienn Micsinai, project manager of the laboratory said that so far we have very little knowledge about the compounds influencing fish meat quality, their concentrations in water, and even about what kind of chemical substances we can encounter in fish meat: how much heavy metals, drug residues, pesticides, mycotoxins or microplastics they contain.

During the execution of the program, the status of fish ponds and rivers are checked. Physiological and toxicological analyses are carried out, together with Szent István University, to determine what kind of stress the fish are exposed to during transportation, what compounds can be released from the packaging materials and what product developments should be done in order to position fish products better on the market.

„There is a noticeable increase in the demand for quality products. The HappyFish project will determine the parameters that can contribute to the es-

tablishment of a complete quality system” – added Dr. László Friedrich of the Faculty of Food Science of Szent István University.

Aquaculture fish farming is gaining importance in feeding the current population of seven billion people living on Earth: for example, in the European Union, 1.3 million tons of the 6.7 million tons of live weight came from aquacultures. There is plenty to do in Hungary, since the annual per capita fish consumption in Portugal is 53 kg, and in the Union it is 25 kg, in Hungary, the corresponding number is only 4.60 – said Dr. Adrienn Micsinai.

About food safety at the CSR conference

New industrial revolution, the measurability of CSR, OECD responsible corporate behavior, the importance of self-monitoring, and the relationship between thermodynamics and sustainability – exciting lectures were given on these topics, among other things, at the 2017 CSR Hungary Summit conference, which was opened by Péter Cseresnyés, state secretary of the Ministry for National Economy, responsible for the labor market and training.

Péter Cseresnyés spoke about the importance of training and the need for digital competences in connection with Industrial revolution 4.0. He emphasized how important it is to have an elaborate work force program within a company. At the government level, the IRINYI plan has been developed, determining industrial strategy for the coming years.

The lecture of Dr. Gyula Kasza, honorary professor and representative of the chairman of NÉBIH was titled „Food citizen from food consumer”. He spoke about the checking of the food chain process, and also about how important risk communication, corporate responsibility and their willingness to monitor themselves are. In its new communication strategy, NÉBIH places greater emphasis on the dialogue with the population. Therefore, they created a number of public interest, easy-to-understand web pages and publications, and they also have an education program in progress.

NÉBIH would like companies to participate as partners in the area of responsibility. To this end, greater emphasis should be placed on self-monitoring, and voluntarily revealed deficiencies should be regarded positively in their perception, so that no further business losses are suffered by them because of the problem.

Also presented a lecture at the conference Dr. Tamás János Szigeti, editor-in-chief of the scien-

tific magazine Journal of Food Investigations and director of business development of WESSLING Hungary Kft., who demonstrated in his presentation titled „Sustainability lessons of an industrial sector for other sectors of industry”, through the laws of thermodynamics, why it is important to talk about sustainability, and for companies to deal with the issue both on their own and on a social level.

Júlia Takács, general manager of CSR Hungary and president of EMVFE (Első Magyar CSR Egyesület, First Hungarian CSR Association) gave a presentation on the measurability of CSR. She demonstrated that a lot of data are generated by each company every day and, based on these, it can be measured where their level of social responsibility stands.

László Balogh, chairman of the Hungarian National Contact Point (Magyar Nemzeti Kapcsolattartó Pont, MNKP) for the OECD guidelines for multinational companies, deputy state secretary of the Ministry for National Economy responsible for financial policy gave a lecture titled „OECD guidelines and Hungary”. He spoke about the relationship between the OECD and responsible business conduct (RBC). From 1976, there have been guidelines along which member countries have been conducting negotiations on their own national level between companies, the population, employees and the leadership of the country. Lawful operation of international companies within the given country is monitored. Hungary joined the system in 1994. In 2017, the legal framework for the operation of the Hungarian National Contact Point was also established.

Dr. György Boda, associate professor (Corvinus University of Budapest Business School), in his presentation titled „The impact of industry 4.0 on the labor market and on the human factor” said that, due to the transformation of the economic structure, a change of attitude is necessary at the companies regarding work organization, in relation to the competence of the employees. Currently, there is a digitalization revolution, posing a major challenge to all the players in the world of work. Supporting digital transformation and the development of digital competence are inevitable for companies that can even gain market advantage through social responsibility by cooperation in education.

In his lecture titled „Reinventing the wheel and the social responsibility of the food industry: sustainable food production or the sustainability of organic foods”, Dr. Sándor Némethy, associate professor at the University of Gothenburg presented the systems approach of sustainable agriculture. He emphasized the introduction of digital technologies, in particular the usefulness of GIS tools in production.

WESSLING Knowledge Center opens in the heart of Újpest

WESSLING Hungary Kft., an independent laboratory, has been performing accredited analyses and consulting services in Hungary for a quarter of a century. On September 29, its new knowledge center, where important research in the fields of environmental protection, food safety and drug control will be carried out in cooperation with universities and authorities, was opened by István Lepsényi, state secretary of the Ministry for National Economy responsible for economic development and regulation.

The ultramodern laboratory and research center, meeting all the requirements of the 21st century, was built in the heart of Újpest with an investment of more than two and a half billion HUF. This investment in Hungary is an important milestone in the strengthening of German-Hungarian economic and scientific relationships – this was said at the opening ceremony, held with the participation of policy makers, university executives and German-Hungarian business organizations.

All of the activities in the portfolio of the WESSLING Knowledge Center are closely linked to the realization of the strategic goals of the Irinyi Plan, and to providing an innovation background to certain key sectors, be it the food industry, the health or the chemical industry – said István Lepsényi.

He emphasized: the twenty-five years of domestic success of WESSLING is an international example of the transition to an innovation-driven economy, which is of the utmost importance for the growth of our industrial sectors based on extending knowledge capital, R&D and innovation.

Zsolt Wintermantel, Mayor of Újpest said that once you come to Újpest, you find an environment that you will be reluctant to give up. „WESSLING Hungary Kft. found a home in Újpest a long time ago, it settled down and has become an integral part of our everyday lives. We are proud of the fact that the company makes its decisions with local interests in mind!” – stressed the mayor.

Dr. Erwin Weßling, founder of the international laboratory network was also very proud of the new Knowledge Center. „It gives me great pleasure to see the enormous change that has happened since we started the company in Budapest together with Mr. Zanathy 25 years ago. What I see now is a state-of-the-art building that meets all the needs of the future and our customers, as well as the interests of the employees and quality requirements” – said Mr. Weßling.

The ceremonial laying of the foundation stone of the WESSLING Knowledge Center was held one year ago, on March 23, 2016, when the management of the company declared that they wanted to play an important role in sustainable development and corporate social responsibility with their widespread scientific and R&D activities – said Dr. László Zanathy, managing director of WESSLING Hungary Kft.

“Today, the WESSLING Knowledge Center really allows us to achieve all these goals, together with our colleagues, our experts and cooperating universities, state control and support organizations, and with our R&D programs – said László Zanathy, adding that the creation of another 100 jobs is planned in the new knowledge center in the coming years.

In addition to its accredited laboratory analyses, WESSLING Hungary Kft. has already been carrying out extensive research activities in recent years. Together with the most prominent Hungarian universities (ELTE, Corvinus, SZIE), the production and tracing system of palinkas with protected designation of origin (PDO), development of a distillation regulation equipment optimized for different fruits, detailed mapping out of the Mangalica genome, the analysis of mycotoxins, and also the investigation of factors influencing the quality of products made of fish meat have been carried out in the laboratory, among other things.

Serbian project office opened by Hungarian laboratory

The registration of the company WESSLING Serbia by the registry court of Novi Sad opens up new perspectives in the life of the corporate group. This is a very important milestone in the history of the corporate group, as this step will strengthen its presence in the Central European and Balkan regions.

With the establishment of the Serbian project office, cross-border programs of great importance for the entire region can be realized in the fields of environmental protection, agriculture and food safety. One such project is the analysis of international waters, keeping rivers clean, which is completely in line with the expectations of the European Union.

The new project office works very closely with Serbian and Hungarian universities, public entities and ministries, as well as various professional organizations. WESSLING Serbia is headed by Anna Koci, who has more than 20 years of professional experience and local knowledge, since she was born and still lives in Vojvodina.

The project office is also a place for receiving samples, which are transported to Budapest and other WESSLING laboratories for now, but the plan is to establish a laboratory in Novi Sad in the near future.

Laboratorium.hu news:

Stills or towers: which one is better?

We could also ask: should we drink palinka distilled once or twice? This time, the answer comes not from consumers or from manufacturers, but from an independent testing laboratory, on the basis of thousands of palinka analyses.

First of all, the article clarifies what the factors are that influence the important components in the palinka, the so-called lead aroma, and then the importance of deflegmation (fractionation of the liquid mixture of the mash) is highlighted.

„Generally, it can be said that palinkas with an intense aroma and flavor, i.e., containing the lead aroma in the right concentration can be prepared if the degree of deflegmation is not too high during the distillation, because in that case, only the yield of alcohol will be excellent, but the amount of aroma components in the palinka will be small” – says the article that was published recently on the www.laboratorium.hu portal, in the column titled Palinka in the flask.

Science reaches a hundred thousand people

Over the past eight months, one hundred thousand visitors saw the temporary exhibition titled Science surrounds us, closing these days, in the Center of Scientific Wonders (CSOPA). The exhibition has covered issues that affect us all, such as food waste, forest fires, and the importance of testing our waters.

CSOPA worked together with seven partners. The backbone of the exhibition was provided by the professional programs of the National Food Chain Safety Office (NÉBIH) on food waste, forest fires and soil protection. Knowledge related to food waste was provided by information boards, short films and via interactive tools, while also offering solutions to the problem. In addition to responsible handling of fire and the rules of forest visits, it was also revealed by the soil protection part how long it takes for household wastes to decompose.

Tableaus were exhibited at CSOPA several times by the Lab Adventure online chemistry competition of WESSLING laboratory. At the first exhibition titled Drifting science, the world of snow and ice was presented by the tableaus and interactive elements. At the spring exhibition called Budding science, organizers of the Lab Adventure drew attention to the fact that flowers and plants can also serve as excellent indicators. In connection with the harvest, the topic of Lab Adventure Online was palinkas and palinka analysis, and it was revealed by the tableaus, why methyl alcohol in palinka is dangerous, and how methanol formation can be reduced.

NFCSO (NÉBIH) news

Debrecen laboratory of NÉBIH renewed

The Debrecen veterinary diagnostics laboratory of the National Food Chain Safety Office (NÉBIH) has been renewed, and its new molecular biology department, meeting the highest biological safety standards, has been developed from roughly 110 million HUF.

As was said by Róbert Zsigó during the visit to the laboratory, also including a demonstration of its tests: it takes about five hours from the arrival of the sample to the printing of the test results, which is an outstanding result in Europe.

For samples considered to pose the highest risk, arriving from areas close to the Ukrainian or Romanian borders, the time between the shooting of the wild boar or finding the dead animal and the release of the parasitological test results is kept to 24 to 36 hours by the renewed Debrecen laboratory, which will hopefully continue to ensure stopping animal diseases at Hungary's borders in the coming period, he said.

NÉBIH has a complex laboratory network, unique in Hungary, that is being developed continuously. It is mandatory to spend 10 percent of the food chain supervision fee on developments, enabling not only the upgrading of the buildings, but also the acquisition of state-of-the-art equipment.

In 2016, a total of 65 thousand analytical orders were registered in the veterinary diagnostics laboratory of NÉBIH, 19 thousand of which were registered in Debrecen. This meant the investigation of nearly one million samples, primarily sent for parasitological analysis (*Trichinella spiralis*). In 2016, 500 to 550 thousand test results were produced in Debrecen from roughly 250 thousand samples.

Several defects revealed by NÉBIH's test of fish sticks

30 different fish stick products were analyzed in the latest Supermint product test of the National Food Chain Safety Office (NÉBIH). Ready to cook products were subjected to authority, laboratory and preference tests by the experts. Protein and salt contents of the fish sticks, as well as the occurrence of heavy metal contaminants, among other things, were measured in the laboratory. All products met food safety requirements, however, other deficiencies were revealed by the tests. Authority proceedings were initiated against 15 products for non-food safety problems. Due to major labeling errors, food inspection fines were imposed in the case of 12 products.

Fish sticks are popular among younger children as well, therefore, special attention was paid to this food group in the latest Supermint product test of NÉBIH. Quality and safety tests were both carried out on the quick-frozen, breaded fish sticks by the employees of the office. In addition to the protein and salt contents of the 30 products, the amounts of heavy metal contaminants were also investigated. Furthermore, identification of the fish species was also carried out, and checking of the product labels was not omitted this time either.

The heavy metal content did not exceed legally permitted limit values for any of the fish sticks, and the salt contents also complied with the values indicated on the labels. However, in the case of two products, protein contents lower than what was indicated on the label were detected by the laboratory tests. Additional objections were raised regarding the labels of certain products.

In the case of fish sticks, an important property is what kind of fish raw material is used for their production. Most of the products are made from fish fillets, but there are also many products in the market which are based on minced or ground fish meat or fish meat paste. If the fish sticks are not made from fillet raw material, the customer has to be informed clearly in the name of the product. It is considered a serious mistake if this name is incorrect or incomplete.

Minor problems included non-compliances regarding nutrition labeling and the inadequate display of additives.

Indication of the fish species is not mandatory in the case of processed products containing fish as an ingredient, however, the fish species was still indicated for most of the 30 fish sticks tested. Species identification could be performed by the

experts in the case of 13 products, and there was only one case where there was a difference between the species indicated by the label and the one determined by the laboratory. Instead of the South Pacific hake (*Merluccius gayi*) indicated on the packaging, North Pacific hake (*Merluccius productus*) fish fillet content was determined by the laboratory analysis.

All of the 30 fish sticks tested proved to be safe, but authority proceedings were initiated against a total of 15 products due to other deficiencies. In 3 cases, businesses were warned by NÉBIH, and they were ordered to correct the errors. Food inspection fines were levied in the case of 12 products, mainly because of major labeling errors, in the amount of roughly 600,000 HUF.

Preference test were carried out again with the participation of laypeople and expert judges, evaluating the taste, texture, smell and external appearance of the products. Based on the scores, COOP fish sticks finished first, Tesco fish sticks came in second, and the product called Gran Mare fish sticks finished third.

Further information and detailed test results are available at the Supermint product test site of NÉBIH, www.szupermenta.hu.

Hundreds of people visited the laboratories of NÉBIH on Researchers' Night

Hundreds of people attended the programs organized in the laboratories of the National Food Chain Safety Office (NÉBIH) on Researchers' Night in September 2017. This year in Hungary, more than 30 cities joined the event launched by the Commission of the European Union, with a total of about 2,000 scientific initiatives. At each venue, representatives of all age groups gained an insight into the world of innovation in an interactive, entertaining form.

On September 29, 2017, 8 food laboratories of NÉBIH joined the European series of programs called Researchers' Night, aimed at public recognition of research and development, as well as presenting a researcher's career. At the Budapest, Kaposvár, Székesfehérvár, Veszprém, Debrecen and Kecskemét regional research bases of the authority, several hundred people attended the lectures on various topics within a few hours. At all venues, most popular proved to be interactive experiments and practical demonstrations.

In the scientific presentations, attracting representatives of all age groups, the future of GMOs

and the direction of their research, as well as antibiotics and immunoanalytics were discussed, among other things. The audience could learn many interesting things about microbiology and radiology, and the role of flavors, smells, colors, as well as of alkalization, isotopes and fats in the food chain was also addressed.

A memorable moment of NÉBIH's innovation programs this year was the demonstration of spectrophotometric spectacles, during which dyed preparations of bacteria and molds could be viewed, and experiments were carried out using liquid nitrogen. Interested people were also happy to participate in various microscopy, pipetting and sensory tests. Based on the positive experiences and the increasing interest year by year, the laboratories of NÉBIH will be happy to have connoisseur of science visit them again next year, at Researchers' Night 2018.

Chips test: mixed results for snacks

10 different cheese chips were analyzed in the latest product test of the National Food Chain Safety Office (NÉBIH). Glutamic acid, trans fatty acid, acrylamide, fat and salt contents of the chips were tested by the expert in the laboratory. Due to values exceeding acrylamide warning levels, two companies had to review the manufacturing processes of their products. Several companies were issued authority warnings because of labeling deficiencies, and they are obligated to correct the errors.

As a continuation of the Supermint product tests, one of the favorite snacks of children and adults alike, chips, in particular, cheese-flavored ones were compared by NÉBIH. A total of 10 products of different brands were checked by the experts. In the laboratory, parameters important from food safety and quality points of view were measured, such as glutamic acid, trans fatty acid and acrylamide contents, while fat and salt contents were also investigated.

For glutamic acid content, playing a role in flavor intensity, there is a legal limit value (the permitted value is no more than 10 g/kg). Since artificial flavor enhancers were used in 9 of the products tested, its compliance was tested in the laboratory. The analyses showed that the glutamic acid contents measured in the cheese chips (2.9 g/kg to 5.8 g/kg) were well below the legal limit value.

The permissible amount of trans fatty acids in foods is also prescribed by law. The chips tested proved to be adequate in this respect as well.

Acrylamide is an organic contaminant present in a number of foods, usually formed in foods that contain carbohydrates, asparagine and aspartic acid together, and which are treated at high (>150 °C) temperatures. The compound itself is an undesirable transformation product that forms in a Maillard type reaction. There is no limit value for acrylamide in the European Union yet, but manufacturers should strive to reduce acrylamide levels. Laboratory tests of the chips showed values exceeding the warning level in the case of two products. The responsible companies were notified of the problem immediately by NÉBIH, and they took measures to correct the manufacturing process and the technological problem.

During the authority inspection, the fat and salt contents indicated on the nutritional label were also investigated, whether their values matched the actual values found in the products. In terms of salt content, all products complied with the values indicated on the packaging. Laboratory measurements found a fat content exceeding the value on the nutritional label in the case of a single chips, and the business was issued a warning by the authority because of this, and so the product and its label has to be reviewed.

Of course, the label were also inspected by the expert of NÉBIH. There were errors in the indicated nutritional values and lists of ingredients in the case of several products. For 6 of the 10 chips tested, some kind of labeling deficiency was found, for which the businesses were issued warnings by the authority, and they were ordered to correct the errors.

According to the traditions of the Supermint test series, the preference test could not be omitted either. During tasting, the taste, external appearance, texture, smell and color of the products were scored by laypeople and expert judges, thus creating the ranking of cheese chips. Based on the results of the preference test it can be stated that cheese-flavored potato chips underperformed compared to expectations.

Lay's cheese-flavored potato chips finished first, second was Pringles' Cheese-flavored snack, while Chio's cheesy potato chips came in third.

Further information and detailed test results are available at the Supermint product test site of NÉBIH.