SPLABORATORIJA

MEMBER OF HAMILTON GROUP

NEWSLETTER

July 2024

NEW ACCREDITED ANALYSES IN SP LABORATORIJA

In SP Laboratorija, in April, a regular surveillance assessment by the Accreditation Body of Serbia was conducted, in accordance with the requirements of the SRPS ISO/IEC 17025:2017 standard, with decision to maintain the accreditation scope and to extend the scope of accreditation for the following tests and sampling:

1. Determination of allergens - sesame in soups, sauces, food additives, spices, confectionery, mill and bakery products, oilseeds and their products, legumes, meat products and starch
Of the 14 allergens - milk, soy, peanuts, cereals containing gluten, nuts (hazelnuts, almonds, walnuts, cashews, pecans, pistachios, macadamia nuts and queensland nuts, brazil nuts), eggs, sesame, mustard, celery, lupine, SO_2 and sulfites, fish, crustaceans, shellfish and other molluscs) which according to the Regulation on declaration, labeling and advertising of food (Official Gazette of RS No. 19/2017, 16/2018, 17/2020, 118/2020, 17/ 2022, 23/2022 and 30/2022) can cause allergies and/or intolerances and which must be stated on the declaration, SP Laboratorija perform analyses of 9 allergens within the scope of accreditation and 2 allergens outside the scope of accreditation:

- gluten
- peanuts
- hazelnut, walnut
- soy
- milk
- egg
- mustard
- sesame
- sulfites (by analytical determination of SO_2 content)
- lupine
- celery

2. Determination of nitrosamine (NDMA) in beer
N-nitrosamines (N-NAs) are products formed during fermentation or production process, by the reaction of nitrogen oxides and secondary amines under appropriate conditions. Most nitrosamines are genotoxic and carcinogenic.

Nitrosamines have been found in various types of foods, such as cured meat, processed fish, cocoa, beer and other alcoholic beverages, but also in processed vegetables, cereals, milk and dairy products or fermented, sour and spicy foods.

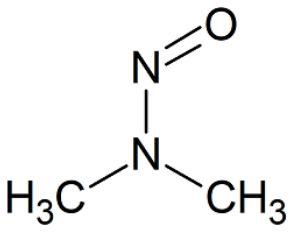

Figure 1: N-nitrosodimethylamine (NDMA)

In beer production, malt is the main source of N-nitrosodimethylamine (NDMA). The presence of NDMA is a consequence of the appearance of various amines in the germinated malting barley, because during the malting process they can react with N_2O_3 and N_2O_4 from the air to form NDMA. Modern malt production uses indirect drying and nitrosamine levels are significantly lower. In addition to beer malt, water can be a potential source of NDMA in beer. NDMA has been identified as a potential by-product of disinfection, so traces can be found in water used for production.

During the previous period, EFSA (European Food Safety Authority) has formed a database and assessed the potential harm that nitrosamines cause to humans and animals, as well as an assessment of consumer exposure.

3. Determination of piperine content in pepper and pepper oleoresin

Piperine is an organic compound naturally present in pepper. The content of piperine as a quality parameter of pepper and pepper oleoresin is regulated by the Regulation on the quality of spices, spice extracts and spice mixtures ("Official Gazette of RS", No. 72/2014, 23/2015 and 69/2023).

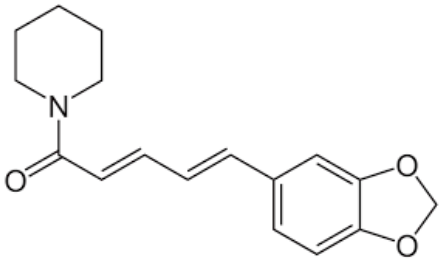

Figure 2: Piperine

4. Determination of ethyl carbamate in alcoholic beverages

Ethyl carbamate is a carcinogenic compound that occurs naturally in fermented foods and beverages. This compound is an ethyl ester of carbamic acid that is naturally formed in fermentation process, which can be derived from several different precursors, such as hydrocyanic acid, urea, citrulline and N-carbamyl by reaction with ethanol. Because of this feature, it can be found in a variety of foods and beverages, such as spirits, wine, beer, bread and yogurt. In the European Union, there is a recommendation on the level of ethyl carbamate in alcoholic beverages defined in the document Commission Recommendation (EU) 2016/22 of 7 January 2016 on the prevention and reduction of ethyl carbamate contamination in stone fruit spirits and stone fruit marc spirits, repealing Recommendation 2010/133/EU

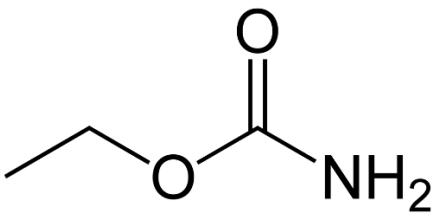

Figure 3: Ethyl carbamate

5. Sampling food of plant origin and food of animal origin except meat for the purpose of testing to determine residues of plant protection products

6. Sampling of food and feed for the purposes of microbiological testing

The detailed scope of accreditation is available on the website of the Accreditation Body of Serbia under accreditation number 01-018:

http://www.registar.ats.rs/

Up-to-date lists of accredited tests for pesticide residues, GMO modifications, metals and metalloids, mycotoxins and plant toxins are available on the website of SP Laboratorija via the link:

https://splaboratorija.rs/o-nama/sertifikati-i-obim-akreditacije/akreditacija/

We are at your disposal for all additional questions and information:

splaboratorija@splaboratorija.rs

PESTICIDE RESIDUE LISTS AS A HELP IN CHOOSING THE SCOPE OF FRUIT AND VEGETABLE TESTING

SP Laboratorija has created 5 lists of pesticide residues (S, M, L, XL, XXL) for samples of fruit and vegetables in order to make it easier for customers to choose the scope of testing. All listed active substances are covered by the multiresidual method (MRM), while certain active substances that require a specific method of preparation and analysis are examined separately. The list of those active substances is below:

- Dithiocarbamates – expressed as CS2, including ziram, thiram, maneb, mancozeb, propineb and methiram
- AMPA, Ethephon, Glyphosate, Glufosinate-ammonium, Maleic hydrazide
- Chlormequat, Paraquat, Diquat, Mepiquat
- Aminoalcohol-Diethanolamine, Aminoalcohol-Morpholine, Aminoalcohol-Triethanolamine, Amitrole, Matrine
- Chlorates/Perchlorates
- Fosetyl-Al (sum fosetyl/phosphonic acid)

The scope of pesticide residue testing is left as a choice to the customer, which is directly related to the future purpose of the given product or raw material (processing, sale, export, certification, etc.) with the note that regardless of the scope, it is possible to provide a statement of conformity to the regulation of the Republic of Serbia and EU, RU, USA regulations.
Bearing in mind that the laboratory constantly monitors market requirements and harmonizes work with current regulations, the lists are subject to change. Up-to-date versions of the list are available at any time on the laboratory's website https://splaboratorija.rs/en/ponude/hrana/rezidue-pesticida/, as well as at the request of customers.

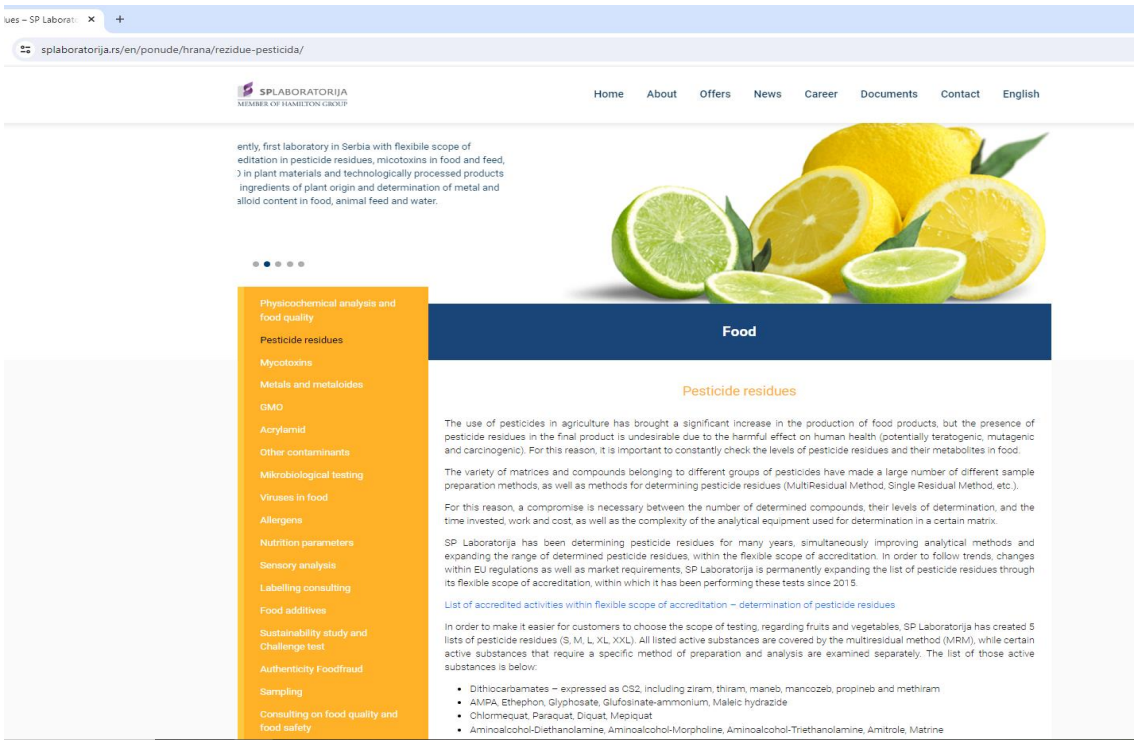

Figure 4: ***https://splaboratorija.rs/en/ponude/hrana/rezidue-pesticida/***

NEW EQUIPMENT IN SP LABORATORIJA

In the full season of fruits and vegetables, and taking into account the fact that this is a very sensitive group of samples, it is extremely important for customers to receive test report as quickly as possible. For this reason, SP Laboratorija purchased one more instrument for liquid chromatography LC-MS/MS. Installation and training on the equipment is in progress. The new instrument increases the laboratory's capacity for testing pesticide residues, increases the speed of analysis of polar pesticide residues, and at the same time relieves the load on the instruments used to determine mycotoxins and plant toxins, which is also important, considering that harvest is in progress.

Figure 5: LC-MS/MS

The laboratory also purchased a new LC-ICP/MS instrument for the determination of inorganic arsenic (the sum of trivalent As(III) and pentavalent As(V)).

Arsenic can be found in nature in inorganic or organic form. The laboratory has been determining the content of total arsenic for many years. The inorganic form is extremely toxic, while the organic compounds generally show less toxicity and were previously used to treat some diseases. Potentially, small amounts of arsenic can be taken into the body through food and water. Foods known to be high in arsenic is rice and rice-based products, fish and seafood, etc. Rice, of all grains, accumulates the most arsenic in its grain, which comes from the soil. Exposure to inorganic arsenic in infants and pregnant women can disrupt the normal development of the child in the later period.

Allowed concentrations of inorganic arsenic are defined by the Regulation on maximum concentrations of certain contaminants in food ("Official Gazette of RS", No. 81/2019, 126/2020, 90/2021, 118/2021, 127/2022 and 110/2023), and at the european level in the Commission Regulation (EU) 2023/915 of 25 April 2023 on maximum levels for certain contaminants in food and repealing Regulation (EC) No 1881/2006.

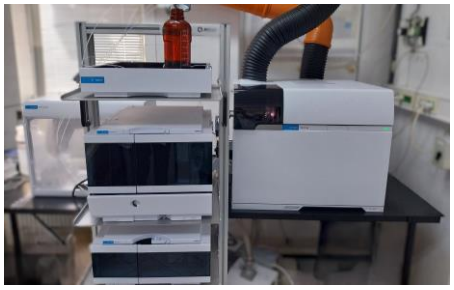

Figure 6: LC-ICP/MS

COMPETENCE FOR TESTING SAMPLES FROM ORGANIC PRODUCTION

In April, an external audit of SP Laboratorija was successfully carried out by representative of ACCREDIA, the Accreditation Body of Italy, in order to assess the laboratory for testing samples from organic production.

The audit was in terms of competence, experience, capacity, structure, equipment, test methods and ensuring the validity of the results and was based on the requirements of the standard SRPS ISO/IEC 17025:2017 General requirements for the competence of the testing laboratory with observation in the performance of the following analyses:

- residues of pesticides and heavy metals in organic food products of plant origin
- residues of pesticides and heavy metals in honey
- residues of veterinary drugs (antibiotics and sulfonamides) in honey

The entire process of selecting a laboratory and sending the necessary documentation began in October 2023 followed by participation in

PT scheme (Proficiency Testing) to confirm proficiency, and finally the competence was confirmed by on-site check.
Production of agricultural and other products using organic production methods, goals and principles of organic production, organic production methods, control and certification in organic production, processing, labeling, storage, transportation, trade, import and export of organic products, as well as other issues of importance for organic production are given in the Law on Organic Production (Official Gazette of RS No. 30/2010 and 17/2019 – other law). In the European Union, the principles of organic production and the rules related to organic production, certification and labeling and advertising are defined in Regulation (EU) 2018/848 of the European Parliament and of the Council of 30 May 2018 on organic production and labelling of organic products and repealing Council Regulation (EC) No 834/2007.

CHANGE IN MANAGEMENT SYSTEM STANDARDS RELATED TO CLIMATE CHANGE

In February 2024, the International Accreditation Forum (IAF) and the International Organization for Standardization (ISO) announced changes (amendments) to the existing ISO standards for management systems (ISO 9001, ISO 14001, ISO 45001, ...) in terms of supplementation related to climate change:

Clause 4.1: The organization shall determine whether climate change is a relevant issue.

Clause 4.2: NOTE: Relevant interested parties can have requirements related to climate change.

The changes reflect ISO's climate action commitments as a sign of support for the London Declaration on Climate Change and a response to the need to consider the impact of climate change on the ability to achieve the intended outcomes of management system standards. The ISO decision also states the content of these changes, which are identical for all standards for management systems and refer to all international standards published so far, and will be an integral part of all future editions of standards in this area.

The list of management system standards that have been amended and that can be downloaded can be found on the website of the Institute for Standardization of Serbia.

(source: www.iss.rs)

CHANGES IN SERBIAN LEGISLATION IN THE PERIOD FROM 15.12.2023 - 15.07.2024

HEALTH SAFETY

Official Gazette of RS, no.81/2019, 126/2020, 90/2021, 118/2021, 127/2022, 110/2023 - Regulation on maximum concentrations of certain contaminants in food

Official Gazette of RS, no.91/2022, 26/2024 - Regulation on maximum permitted amounts of plant protection product residues in food and animal feed

Official Gazette of RS, no.26/2024 - Regulation on establishing the Animal feed safety monitoring program for 2024

Official Gazette of RS, no.30/2024 - Regulation on general and special conditions of food hygiene and microbiological criteria for food

Official Gazette of RS, no. 33/2024 - Regulation on establishing the monitoring program for food safety of animal origin for 2024

Official Gazette of RS, no.34/2024 - Regulation on establishing the Safety monitoring program of food of animal origin and animal feed imported for 2024

Official Gazette of RS, no.34/2024 Regulation on establishing the Safety monitoring program food of plant and mixed origin for 2024

Official Gazette of RS, no. 34/2024 - Regulation on determining the Annual post-registration program control of plant protection products for 2024

MEAT AND MEAT PRODUCTS

Official Gazette of RS, no.36/2018, 46/2018, 37/2024 - Regulation on establishing measures for early detection, diagnosis, prevention of spread, suppression and eradication of poultry infections by certain salmonella serotypes

FRUITS, VEGETABLES AND PRODUCTS

Official Gazette of RS, no.128/2020, 130/2021, 16/2024 Regulation on the quality of fruit and vegetable products

BEER, WINE, ALCOHOLIC BEVERAGES

Official Gazette of RS, no.121/2012, 102/2014, 78/2015, 94/2017, 48/2022, 18/2024 - Regulation on the conditions for recognition, the procedure for recognition of labels for still wines and some special wines with geographical origin, as well as the method of production and labeling still wines and some special wines with geographical origin

Official Gazette of RS, no.38/2012, 50/2015, 62/2016, 24/2017, 22/2019, 30/2021, 18/2024 - Regulation on the method of packaging, declaring and labeling still wine, some special wines and other products in the production and market

CONFECTIONERY PRODUCTS

Official Gazette of RS, no.24/2019, 18/2024 - Regulation on cocoa and chocolate products intended for human consumption

ANIMAL FEED

Official Gazette of RS, no.31/2011, 97/2013, 15/2015, 61/2017, 118/2023 - Regulation on the method of classification and handling of by-products of animal origin, veterinary and sanitary conditions for the construction of facilities for the collection, processing and destruction of by-products of animal origin , the way of conducting official control and control, as well as the conditions for cattle cemeteries and burial pits

ITEMS OF GENERAL USE - TOYS

Official Gazette of RS, no.78/2019, 08/2024 - Regulation on Toy Safety

WASTE WATER

Official Gazette of RS, no.18/2024 Regulation on the method and conditions for quantity measurement and testing the quality of waste water and the content of the report on the performed measurements

PSYCHOACTIVE CONTROLLED SUBSTANCES

Official Gazette of RS, no.58/2024 - Regulation on establishing the List of psychoactive controlled substances

CHEMICALS

Official Gazette of RS, no.90/2013, 25/2015, 2/2016, 44/2017, 36/2018, 9/2020, 57/2022, 29/2024 - Regulation on restrictions and prohibitions of production, marketing and use of chemicals

CHANGES IN EUROPEAN FOOD LEGISLATION

CONTAMINANTS

Commission Regulation (EU) 2023/915 of 25 April 2023 on maximum levels for certain contaminants in food and repealing Regulation (EC) No 1881/2006:

- Commission Regulation (EU) 2024/1002 of 4 April 2024 amending Regulation (EU) 2023/915 as regards the maximum levels of **perchlorate** in beans (Phaseolus vulgaris) with pods

- Commission Regulation (EU) 2024/1003 of 4 April 2024 amending Regulation (EU) 2023/915 as regards maximum levels for the **sum of 3-monochlorpropanediol (3-MCPD) and 3-MCPD fatty acid esters** in infant formulae, follow-on formulae and food for special medical purposes intended for infants and young children and young child formulae

- Commission Regulation (EU) 2024/1022 of 8 April 2024 amending Regulation (EU) 2023/915 as regards maximum levels of **deoxynivalenol** in food

- Commission Regulation (EU) 2024/1038 of 9 April 2024 amending Regulation (EU) 2023/915 as regards maximum levels of **T-2 and HT-2 toxins** in food

- Commission Regulation (EU) 2024/1683 of 17 June 2024 correcting the Latvian language version of Regulation (EU) 2023/915 on maximum levels for certain contaminants in food

- Commission Regulation (EU) 2024/1756 of 25 June 2024 amending and correcting Regulation (EU) 2023/915 on maximum levels for certain contaminants in food

- Commission Regulation (EU) 2024/1808 of 1 July 2024 amending Regulation (EU) 2023/915 as regards the application date of lower maximum levels for **ergot sclerotia and ergot alkaloids** in food

PESTICIDE RESIDUES

Regulation (EC) No 396/2005 of the European Parliament and of the Council of 23 February 2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin and amending Council Directive 91/414/EEC:

- Commission Regulation (EU) 2024/246 of 16 January 2024 amending Annex IV to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards **Pythium oligandrum strain M1, Trichoderma atroviride strain AGR2 and Trichoderma atroviride strain AT10**

- Commission Regulation (EU) 2024/331 of 19 January 2024 amending Annexes II and V to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for **oxamyl** in or on certain products

- Commission Regulation (EU) 2024/341 of 22 January 2024 amending Annexes II and V to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for **diethofencarb, fenoxycarb, flutriafol and pencycuron** in or on certain products

-Commission Regulation (EU) 2024/342 of 22 January 2024 amending Annex II to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for **cyflumetofen, oxathiapiprolin and pyraclostrobin** in or on certain products

- Commission Regulation (EU) 2024/344 of 22 January 2024 amending and correcting Annex II to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for **mandipropamid** in or on certain products

- Commission Regulation (EU) 2024/345 of 22 January 2024 amending Annexes II, III and V to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for **desmedipham, etridiazole, flurtamone, profoxydim, difenacoum and potassium permanganate** in or on certain products

- Commission Regulation (EU) 2024/347 of 22 January 2024 amending Annexes II and V to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for **fipronil** in or on certain products

- Commission Regulation (EU) 2024/352 of 22 January 2024 amending Annexes II and V to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for **(Z)-13-hexadecen-11-yn-1-yl acetate, (Z,Z,Z,Z)-7,13,16,19-docosatetraen-1-yl isobutyrate, acrinathrin, azimsulfuron, famoxadone, prochloraz and sodium hypochlorite** in or on certain products

- Commission Regulation (EU) 2024/376 of 24 January 2024 amending Annex II to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for **indoxacarb** in or on certain products

- Commission Regulation (EU) 2024/398 of 29 January 2024 amending Annex II to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for **haloxyfop** in or on certain products

- Commission Regulation (EU) 2024/451 of 5 February 2024 amending Annex III to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for **nicotine** in or on certain products

- Commission Regulation (EU) 2024/891 of 22 March 2024 amending Annexes II and V to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for **bifenazate** in or on certain products

- Commission Regulation (EU) 2024/1076 of 15 April 2024 amending Annexes II and V to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for **bispyribac, metosulam, oryzalin, oxasulfuron and triazoxide** in or on certain products

- Commission Regulation (EU) 2024/1077 of 15 April 2024 amending Annex II to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for **2,4-DB, iodosulfuron-methyl, mesotrione and pyraflufen-ethyl** in or on certain products

- Commission Regulation (EU) 2024/1078 of 15 April 2024 amending Annexes II and IV to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for **azoxystrobin, flonicamid, isofetamid, mefentrifluconazole, metazachlor, pyrimethanil and quartz sand** in or on certain products

- Commission Regulation (EU) 2024/1314 of 15 May 2024 amending Annex III to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for **dithianon** in or on certain products

- Commission Regulation (EU) 2024/1318 of 15 May 2024 amending Annex II to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels **prothioconazole** in or on certain products

- Commission Regulation (EU) 2024/1342 of 21 May 2024 amending Annex II to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for **deltamethrin, metalaxyl, thiabendazole and trifloxystrobin** in or on certain products

- Commission Regulation (EU) 2024/1355 of 21 May 2024 amending Annexes II, III and V to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for **benzovindiflupyr, chlorantraniliprole, emamectin, quinclorac, spiromesifen, and triflumuron** in or on certain products

- Commission Regulation (EU) 2024/1439 of 24 May 2024 amending Annexes II and III to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for **fenazaquin, mepiquat and propamocarb** in or on certain products

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