Vodič za poznavanje **maslinovog ulja**

Olive oil guide

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Olive oil guide

Bar, 2019.

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Tiraž / Printing
1000

Realizacija projekta omogućena je zahvaljujući finansijskoj podršci Opštine Bar u okviru Javnog konkursa za raspodjelu sredstava iz budžeta Opštine Bar za 2019. godinu.
The implementation of the project was made possible thanks to the financial support of the Municipality of Bar within the Public Invitation for allocation of funds from the budget of the Municipality of Bar for 2019.

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Uvodna riječ

Vodič za poznavanje maslinovog ulja nastao je kao rezultat analize koju je 2014. godine sprovelo Ministarstvo poljoprivrede i ruralnog razvoja u okviru Sektorske studije za potrebe izrade Strategije poljoprivrede i ruralnog razvoja 2014-2020. Tadašnje procjene su pokazale da se u Crnoj Gori potroši manje od pola litra maslinovog ulja po glavi stanovnika, dok se u Španiji, Italiji i Grčkoj u prosjeku potroši preko 15 litara maslinovog ulja po glavi stanovnika. Težnja autora Vodiča bila je da se kroz promociju na različitim nivoima smanji disbalans u potrošnji maslinovog ulja u odnosu na ostale mediteranske zemlje, a prvi Vodič je pripremljen 2015. godine u saradnji sa Montenegro Biznis Alijansom (MBA), prvom privatnom poslovnom asocijacijom u Crnoj Gori, koja je pripremila aplikaciju za projekat i omogućila Crnoj Gori da prvi put u istoriji dobije grant od Međunarodnog savjeta za maslinu (IOC). Projekat pripreme i promocije Vodiča realizovan je pod pokroviteljstvom IOC-a, uz podršku Ministarstva poljoprivrede i ruralnog razvoja, i naišao je na odličan odziv kod maslinara i potrošača. U januaru 2019. godine Društvo maslinara Bar, u saradnji sa autorima prethodnog Vodiča, apliciralo je za dobijanje finansijskih sredstava u okviru Javnog konkursa za raspodjelu sredstava iz budžeta Opštine Bar za 2019. godinu sa ciljem da se Vodič dopuni novim sadržajem, prevede na engleski jezik i tako postane dostupan i turistima koji u sve većem broju posjećuju barsku rivijeru.

Autori

Foreword

The Olive Oil Guide was created as a result of the analysis conducted in 2014 by the Ministry of Agriculture and Rural Development within the Sectoral Study for the Development of the Strategy for Agriculture and Rural Development 2014-2020. The estimates showed that less than half a litre of olive oil per capita is consumed in Montenegro, while in Spain, Italy and Greece, on average, it is consumed over 15 liters of olive oil per capita. The aim of the Guide was to reduce disbalance in the consumption of olive oil compared to other Mediterranean countries through promotion at different levels. The first Guide was prepared in 2015 in cooperation with Montenegro Business Alliance (MBA), the first private business association in Montenegro , which prepared the application for the project and enabled Montenegro to receive a grant from the International Olive Council (IOC) for the first time in history. The preparation and promotion project of the Guide was implemented under the auspices of the IOC, with the support of the Ministry of Agriculture and Rural Development, and came across an excellent response from olive growers and consumers. In January 2019, the Association of olive growers Bar(Mne. Društvo maslinara Bar) in cooperation with the authors of the previous Guide, applied for funding in the Public Call for allocation of funds from the budget of the Municipality of Bar for 2019 with the aim to supplement the Guide with new content, translate into English so it would become available to tourists who are increasingly visiting the coast of Bar.

Authors

1. UVOD

Maslina kao jedna od rijetkih stalnih pratilaca razvoja ljudske civilizacije, uzgajana je još prje 4 000 godina u Mesopotamiji i Siriji, dok je u Starom Rimu trgovina uljem bila jedna od najvažnijih. Ipak, starija je od toga, jer je bila poznata još u mlađem kamenom dobu, a prvi ostaci maslinovog drveta potiču od prije 45 000 godina, dok su još prije 8 000 godina korišteni mali plodovi divlje masline. Kao tradicionalni simbol mira, napretka i ponovnog rođenja, maslina i njeno ulje je danas cijenjeno širom svijeta, sa ubrzanom daljom ekspanzijom proizvodnje na Australiju, Argentinu, Kinu, Vijetnam, Novi Zeland, SAD itd.

Crna Gora kao mediteranska zemlja, predstavlja prostor gdje se maslina uzgaja u kontinuitetu duže od 2 000 godina, a o čemu svjedoče i nedavna mjerenja starosti Stare masline u Baru. Savremenim razvojem turizma i poljoprivrede, proizvodnja maslinovog ulja dobija na značaju, pri čemu saznanje o prednostima konzumiranja ali i brojnim zabludama, postaje sve važnije za potrošače.

Ovaj vodič je prevashodno namjenjen potrošačima i ima za cilj da pruži osnovne informacije o maslinovom ulju. Mišljenja smo da će djelovi vodiča o kategorijama maslinovog ulja, značaju senzorske analize i zabludama biti posebno korisne i zanimljive. Međutim, uvjereni smo da će sadržaj privući pažnju šire javnosti, posebno proizvođača, na kojima je velika odgovornost stalnog unapređenja kvaliteta maslinovog ulja i drugih proizvoda od masline.

Sadržaj vodiča je organizovan na jednostavan i razumljiv način, ne zanemarujući pri tome složenost problematike uzgoja maslina i proizvodnje maslinovog ulja. Namjera je da se dalje promoviše potrošnja maslinovog ulja, koja je trenutno u Crnoj Gori na veoma niskom nivou. Zbog toga smo u tekstu vodiča dodali niz konkretnih praktičnih savjeta, ali i rječnik, želeći time da upotpunimo sliku o važnosti poznavanja te potrošnje maslinovog ulja.

U namjeri da ovaj vodič bude koristan svima onima koji se budu njime služili, završavamo ovaj uvod sledećom porukom: „Indocti discant et amment meminisse periti“[1].

1 “Oni koji ne znaju neka uče, a koji znaju neka nalaze zadovoljstvo u tome da se podsjećaju“

1. INTRODUCTION

Olive tree as one of the few permanent observers of the development of human civilization. It was cultivated even 4 000 years ago in Mesopotamia and Syria, while in Ancient Rome olive oil trade was one of the most important types of trade. However, olives existed before that period, even in the Early Stone Age, and the first remains of olive tree originate from 45 000 years ago, while even 8 000 years ago small fruits of wild olive were used. As a traditional symbol of peace, progress and re-birth, olive and its oil are valued worldwide today. Olive oil production and olive cultivation are experiencing growth not only in Mediterranean, but also in Australia, Argentina, China, New Zealand, the USA, etc.

Montenegro as a Mediterranean country is a place where olive trees are being grown continuously for more than 2 000 years, as recent measurements of the age of the Old Olive Tree in Bar may ratify. As a result of the modern development of tourism and agriculture, the production of olive oil is gaining importance, with known benefits of consumption, but also numerous misconceptions, olive oil is becoming increasingly important for consumers.

This guide is primarily intended for consumers and aims to provide basic information on olive oil. We think that parts of the Guide on the categories of olive oil, the importance of sensory analysis and misconceptions will be particularly useful and interesting. However, we are confident that the content will attract the attention of the wider public, especially olive oil producers, who are greatly responsible for the constant improvement of the quality of olive oil and other olive products.

The Guide's content is organized in a simple and comprehensible way, without neglecting the complexity of olive cultivation and olive oil production. The intention is to further promote the consumption of olive oil, which is currently at a very low level in Montenegro. Therefore, we added a number of concrete practical tips in the guide, but also a dictionary, in order to create a complete picture of the importance of knowing and consuming olive oil.

In order to make this guide useful to all those who are going to use it, we are concluding this introduction with the following message: "Indocti discant et amment meminisse periti"[1]

1"Those who do not know should learn and those who know should be reminded"

2. MASLINARSTVO U BARU

Stara maslina je još odavno bila turistička atrakcija Crne Gore, a potvrda da u njenoj okolini opstaju i njene „vršnjakinje" stvara preduslove za unaprijeđenje turističke ponude odnosno unaprijeđenje brenda lokalnog maslinovog ulja.

Vrhunskim kvalitetom maslinovog ulja, luksuznom i modernom ambalažom uz ekskluzivitet o porijeklu ulja koje je dobijeno od maslina ubranih sa stabala koja su starija od 2 000 godina Crna Gora ima izuzetnu šansu za plasman domaćeg maslinovog ulja.

Iz grupe od pedeset maslina na kojima je vršeno utvrđivanje starosti moraju se izdvojiti dvije koje su starije od 2 000 godina i to:

Stara maslina

U Baru u mjestu Mirovica vjekovima opstaje veoma stara maslina koja je u vlasništvu države Crne Gore. Starost ove masline je u tenutku naučnog istraživanja (februar 2015. godine) procijenjena na 2 240 godina. Vrijednost Stare masline je neprocjenjiva, ona je pravo prirodno i kulturno bogatstvo za Bar i Crnu Goru. Iako je starija od dvije hiljade godina, ona još uvjek redovno daje plodve od kojih se proizvodi ulje vrhunskog kvaliteta. Privilegija je živjeti u gradu u kojem je još prije nove ere zasađeno drvo masline, drvo mira ljubavi i prijateljstva, u gradu čiji su stanovnici, dealeki preci znali da je sačuvaju i tu obavezu prenesu na buduće generacije. Okolina masline

je uređena i ona je spomenik prirode koji svakodnevno posjećuju mnogobrojni turisti sa svih strana svijeta.

Stara maslina je podstrek i obaveza svim barskim maslinarima da neprekidno rade na unaprijeđenju maslinarstva kako u Baru tako i u cijeloj Crnoj Gori. Barani sa ljubavlju i poštovanjem čuvaju stara stabla koja su posadili njihovi daleki preci a isto tako sade nove masline i formiraju moderne maslinjake.

Begina maslina

Takođe veoma stara maslina, poznata kao Begina maslina, raste u Mrkojevićima, odnosno u mjestu Pečurice, i u privatnom je vlasništvu maslinara i uljara Vebije Abazovića. Starost ove masline je u trenutku istraživnja (februar 2015. godine) procijenjena na 2 056 godina. Realizacijom navedenog projekta i ovo stablo masline je postalo interesantno za turste pa ga svakim danom obilazi sve veći broj posjetilaca. Porodica Abazović sa posebnom pažnjom ubere svaki plod sa ovog drveta, preradi ga u vrhunsko ulje i na tržištu po visokim cijenama plasira kao nešto posebno.

2. OLIVE GROWING IN BAR

The Old Olive has been a tourist attraction of Montenegro for a long time, and the fact that its "contemporaries" survive in its surroundings create valuable preconditions for improving the tourist offer or improving local olive oil branding.

With superior quality of olive oil, luxurious and modern packaging with the exclusivity of the origin of oil obtained from olives harvested from trees older than 2,000 years, Montenegro has an exceptional chance to market homemade olive oil.

Out of group of fifty olives whose age was determined, two of them of over 2,000 years old should be singled out:

Old Olive Tree

In Mirovica settlement in Bar, there is very old olive tree which survived through the centuries, owned by the state of Montenegro. The age of this olive tree is estimated at 2,240 years during the scientific research (February 2015). The value of the Old Olive Tree is invaluable. It represents a natural and cultural resource for Bar and Montenegro. Although older than two thousand years, it still regularly gives fruits that produces high quality oil. It is a privilege to live in the town where olive tree, the tree of peace, love and friendship was planted, in the town whose inhabitants, distant ancestors, knew how to save it and transfer that obligation to future generations. The olive surrounding is decorated and it represents a monument of nature that is visited daily by numerous tourists from all over the world.

The old olive tree is an incentive and motivation for all olive growers in Bar to continuously work on the improvement of olive growing in both Bar and whole Montenegro. The citizens of Bar protect with love and respect the old trees that their distant ancestors planted but also plant new olives and form modern olive groves.

Begina maslina

Also, a very old olive tree, known as Begina masina, grows in Mrkojevići, in Pečurica settlement and is privately owned by olive grower and oil producer, Vebija Abazović. The age of this olive tree is estimated at 2 056 years at the time of the research (February 2015). By implementation of the mentioned project, this olive tree also has become interesting for tourists and is being visited by an increasing number of visitors every day. The Abazovic family takes special care of each fruit from this tree, processes it into high-quality oil and puts it into market at high prices as special product.

3. MASLINOVO ULJE DOBIJENO OD MASLINA STARIJIH OD 2000 GODINA

U cilju diferencijacije barskog i ulcinjskog maslinovog ulja koje se dobija od hiljadugodišnjih stabala maslina, Društvo maslinara Bar je zajedno sa UNIDO (Ujedinjine nacije – industrijski razvoj) pokrenulo i realizovalo projektnu aktivnost utvrđivnja starosti 50 stabala veoma starih maslina sa područja Bara i Ulcinja. Ovom aktivnošću se željelo postići izdvajanaje maslinovog ulja dobijenog od izuzetno starih maslina i stvaranje preduslova za njegovo plasiranje kroz unaprijeđenu turističku ponudu Crne Gore.

Eksperti iz "Istanbul University Wood Anatomy and Tree Ring Research Laboratory" su došli u Crnu Goru, sa odabranih stabala maslna uzeli uzorke i odnijeli ih u laboratoriju u Istanbulu. Nakon sprovedenog istraživanja eksperti su izradili konačan izvještaj utvrđivanja starosti 50 stabala maslina sa područja Bara i Ulcinja. Pored ostalog iz izvještaja se moglo zaključiti da je:

- 16 istraživanih stabala staro manje od 500 godina,
- 26 istraživanih stabala staro između 500 i 1 000 godina,
- 6 istraživanih stabala staro između 1 000 i 2 000 godina i
- 2 istraživana stabla su starija od 2 000 godina.

Za svako staro stablo masline je izrađen sertifikat koji sadrži njegovu procjenjenu starost, informaciju o vlasništvu i lokaciju sa geografskim koordinatama.

Naučna potvrda da u Baru i Ulcinju još uvjek opstaju stabla masline koja su starija od dvije hiljade godina te da ta stabla bez obzira na starost, obilno rađaju, daju plodove od kojih se pravi vrhunsko maslinovo ulje, barskim i ulcinjskim maslinarima pruža priliku da brendiranje svojeg proizvoda razvijaju u tom smjeru i koriste naslijeđeno bogatsvo.

3. OLIVE OIL OBTAINED FROM OLIVES OLDER THAN 2,000 YEARS

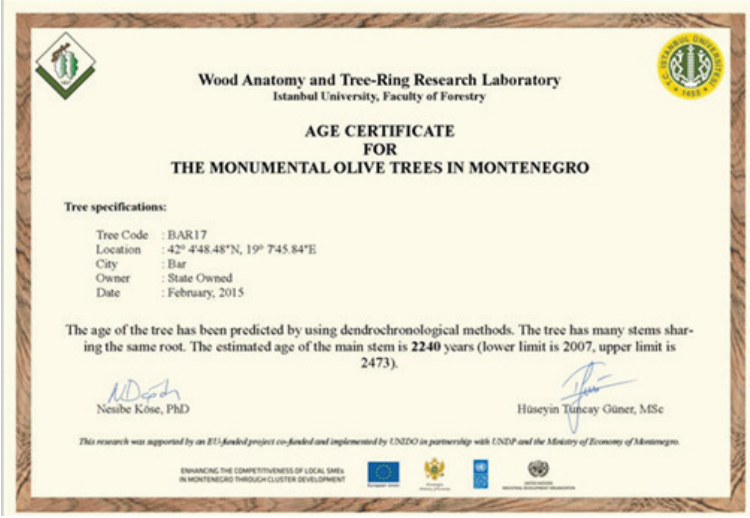
In order to differentiate olive oil from Bar and Ulcinj received from olive trees thousands of years ago, Association of olive growers Bar together with UNIDO (United Nations - Industrial Development Organization) initiated and implemented the project activity determining the age of 50 trees of very old olives from the regions of Bar and Ulcinj. This activity sought to extract olive oil obtained from extremely old olive trees and create preconditions for its placement through an improved tourist offer of Montenegro.

Experts from the "Istanbul University Wood Anatomy and Tree Ring Research Laboratory" came to Montenegro, they took samples from the selected olive trees and took them to a laboratory in Istanbul. After conducting the research, the experts prepared a final report on determining the age of 50 olive trees from the regions of Bar and Ulcinj. Among other things, it can be concluded from the report that:

- 16 explored trees old less than 500 years old,
- 26 explored trees between 500 and 1000 years old,
- 6 explored trees between 1000 and 2000 years old and
- 2 explored trees are older than 2000 years old.

For each old olive tree, a certificate has been produced containing its estimated age, ownership information and location with geographical coordinates.

Scientific confirmation that olive trees that are over two thousand years old still exist in Bar and Ulcinj, and that these trees, regardless of their age abundantly give the fruits of which superior olive oil is made, gives the opportunity to olive growers from Bar and Ulcinj to brand their products, develop in that direction and use inherited wealth.



Wood Anatomy and Tree-Ring Research Laboratory
Istanbul University, Faculty of Forestry

AGE CERTIFICATE
FOR
THE MONUMENTAL OLIVE TREES IN MONTENEGRO

Tree specifications:

Tree Code : BAR17
Location : 42° 4'48.48"N, 19° 7'45.84"E
City : Bar
Owner : State Owned
Date : February, 2015

The age of the tree has been predicted by using dendrochronological methods. The tree has many stems sharing the same root. The estimated age of the main stem is **2240** years (lower limit is 2007, upper limit is 2473).

Nesibe Köse, PhD

Hüseyin Tuncay Güner, MSc

This research was supported by an EU-funded project co-funded and implemented by UNIDO in partnership with UNDP and the Ministry of Economy of Montenegro.

ENHANCING THE COMPETITIVENESS OF LOCAL SMEs IN MONTENEGRO THROUGH CLUSTER DEVELOPMENT

4. KATEGORIJE MASLINOVOG ULJA

Opšta definicija **djevičanskih maslinovih ulja** je da su to ulja dobijena iz ploda masline isključivo mehaničkim ili drugim fizičkim procesima pod uslovima koji ne dovode do promjena u ulju, koja nijesu bila podvrgnuta nikakvim procesima osim pranja, pretakanja, centrifugiranja ili filtriranja, uz isključivanje ulja dobijenih pomoću rastvarača ili pomoću aditiva koji imaju hemijske ili biohemijske reakcije, ili procese esterifikacije, i bilo kakvo miješanje sa uljem druge vrste.

Prema Zakonu o maslinarstvu i maslinovom ulju Crne Gore[2] **maslinova ulja se dijele** u sledeće kategorije (ulja):

Ekstra djevičansko ulje je nabolje upotrebljavati u svakodnevnoj ishrani, bilo kao sirov začin, ali i u (dugotrajnom) kuvanju. To je ulje koje prema hemijskoj analizi sadrži manje od 0,8% SMK, miris podsjeća na plod masline (Mv>0) i ne smije imati negativnih svojstava (Md=0).

Djevičansko maslinovo ulje je takođe jestivo ulje koje sadrži do 2% slobodnih masnih kiselina i koje može imati blagi defekt na mirisu i ukusu, a čija medijana može iznostit do 3,5. Ovo ulje je nižeg kvaliteta od ekstra djevičanskog, a samim tim i jeftinije

Posebno treba istaći da se često na policama prodavnica nalaze **ulja od komine masline** (eng. pomace oil; ital. olio di sansa), skromnih nutritivnih vrijednosti i niskog ukupnog kvaliteta. To su ulja dobijena hemijskom ekstrakcijom iz komine maslina i ne spadaju u kategoriju djevičanskih. U svijetu je popularno zbog relativno niske cijene, ali se u Crnoj Gori bilježe nerazumno visoke cijene istog.

Na drugoj strani, djevičanska ulja sa prisustvom slobodnih masnih kiselina većim od 2,0% i/ili sa neodgovarajućim senzorskim karakteristikama (tzv. **lampante**) smatraju se neprikladnim za ljudsku upotrebu (vidjeti tabelu 1).

Tabela 1. Granične vrijednosti pojedinih pokazatelja za djevičanska ulja

Kategorija maslinovog ulja	Udio slobodnih masnih kisjelina % SMK	Organolepticka ocjena	
		Mediana defekta	Mediana vocnosti
Ekstra djevičansko maslinovo ulje	≤0.8%	Md=0	Mv>0
Djevičansko maslinovo ulje	≤2%	Md≤3.5	Mv>0
Maslinovo ulje lamplante	>2%	Md>3.5	-

Izvor: Ćazim Alković, Senzorska ocjena kvaliteta u funkciji kategorizacije maslinovih ulja, Beograd, Kvalitet i izvrsnost1-2 2018

2. Službeni list Crne Gore, br.45/14

4. CATEGORIES OF OLIVE OIL

Virgin olive oil is an oil derived from an olive fruit exclusively by mechanical or other physical processes under conditions that do not lead to changes in oil, which have not undergone any processes other than washing, streaming, centrifuging or filtering, with the exclusion of solvent oils or additives that have chemical or biochemical reactions, or re-esterification processes, and any mixing with oil of another kind.

According to the Law on Olive Growing and Olive Oil of Montenegro[2], **olive oil** is divided into the following categories (oils).

Extra virgin oil is best used in everyday diet, either raw as addition to food but also in cooking. It is an oil that, according to chemical analysis, contains less than 0.8% SMK, has a smell of olive fruit (Mf> 0) and does not have negative properties (Md = 0).

Virgin olive oil is also an edible oil containing up to 2% of free fatty acids and may have a mild odor defect and a taste whose median can reach up to 3.5. This oil is of lower quality than extra virgin and therefore cheaper.

It should be pointed out that often on the shelves of the stores you can find **Olive Pomace Oil** (ital. Olio di sansa), of low nutritional value and low overall quality. These are oils obtained by chemical extraction from olive pomace oil and do not belong to the category of virgin olive oil. It is popular in the world because of the relatively low price, but prices in Montenegro are unreasonably high.

On the other hand, virgin oils with the presence of free fatty acids greater than 2.0% and/or with inadequate sensory characteristics (so called lampante) are considered inappropriate for human use (see Table 1).

Table 1. Threshold limit value of certain Virgin oil indicators

Category of olive oil	Proportion of free fatty acids % (FFA)	Organoleptic assessment	
		Median of defect	Median of fruitiness
Extra-virgin olive oil	≤0.8%	Md=0	Mf>0
Virgin olive oil	≤2%	Md≤3.5	Mf>0
Lamplante olive oil	>2%	Md>3.5	-

Source: Ćazim Alković, Sensor Quality Score in the Function of Categorization of Olive Oils, Belgrade, Quality and Excellence1-2 2018

2. Official Gazette of Montenegro, no. 45/14

OSTALE VRSTE MASLINOVIH ULJA

Rafinisano maslinovo ulje je ulje dobijeno rafinisanjem djevičanskog maslinovog ulja, koje ne sadrži više od 0,3 grama slobodnih masnih kiselina izraženih kao oleinska kiselina na 100 grama ulja i koje zadovoljava kriterijume ispitivanja i ocjenjivanja propisane ovim zakonom;

Maslinovo ulje sastavljeno od rafinisanog maslinovog ulja i djevičanskog maslinovog ulja, je ulje dobijeno miješanjem rafinisanog maslinovog ulja i djevičanskog maslinovog ulja osim maslinovog ulja lampante, koje ne sadrži više od 1 grama slobodnih masnih kiselina izraženih kao oleinska kiselina na 100 grama ulja i koje zadovoljava kriterijume ispitivanja i ocjenjivanja propisane ovim zakonom;

Sirovo ulje komine maslina je ulje dobijeno preradom komine maslina mehaničkim postupcima i/ili ekstrakcijom komine maslina organskim rastvaračima, bez rafinisanja i esterifikacije i bez miješanja sa uljima druge vrste i koje zadovoljava kriterijume ispitivanja i ocjenjivanja propisane ovim zakonom;

Rafinisano ulje komine maslina je ulje dobijeno rafinisanjem sirovog ulja komine maslina, koji ne sadrži više od 0,3 grama slobodnih masnih kiselina izraženih kao oleinska kiselina na 100 grama ulja i koje zadovoljava kriterijume ispitivanja i ocjenjivanja propisane ovim zakonom;

Ulje komine maslina je ulje dobijeno miješanjem rafinisanog ulja komine maslina i djevičanskog maslinovog ulja lampante, koje ne sadrži više od 1 grama slobodnih masnih kiselina izraženih kao oleinska kiselina na 100 grama ulja i koje zadovoljava kriterijume ispitivanja i ocjenjivanja propisane ovim zakonom.

Pravila za proizvodnju dobrog (ekstra djevičanskog) ulja

1. Masline se beru sa stabla kada su optimalno zrele i zdrave.

2. Masline se skladište do prerade u perforiranim plastičnim posudama (tj. gajbama), dok vreće treba izbjegavati zbog nagnječenja i cijeđenja maslina.

3. Masline se mogu čuvati najduže 48h od berbe i to na hladnom, tamnom i prozračnom mjestu.

4. Prerada se vrši u mlinovima koji hladnim cijeđenjem i mehaničkim postupkom izdvajaju ulje, poštujući savremene higijenske standarde. Procenat ulja se kreće između 6-25%, zavisno od sorte i vremena berbe.

5. Ulje se skladišti u inoks bačvama, gdje se nakon perioda bistrenja tj. taloženja isto flašira. Alternativa je filtriranje ulja.

6. Rok trajanja ulja je 18 mjeseci od momenta proizvodnje, pri čemu isti može biti duži (do 24 mjeseca) ako se radi o visoko kvalitetnom ulju, odnosno kraći (manje od 8 mjeseci) ako se radi o inicijalno lošem ulju.

OTHER TYPES OF OLIVE OIL

Refined olive oil is an oil obtained by refining virgin olive oil, which contains no more than 0.3 grams of free fatty acids expressed as oleic acid per 100 grams of oil and which meets the criteria for testing and assessment prescribed by this Law;

Olive oil composed of refined olive oil and virgin olive oil is obtained by mixing refined olive oil and virgin olive oil with the exception of lampante olive oil, which contains no more than 1 gram of free fatty acids expressed as oleic acid per 100 grams of oil and which meets the criteria examination and evaluation prescribed by this Law;

Crude Olive Pomace Oil is an oil obtained by processing Pomace Olive Oil with mechanical methods and / or extracting olive pomace with organic solvents, without refining and re-esterification, and without mixing with oils of another type and which meets the testing and assessment criteria prescribed by this Law;

Refined Olive Oil is an oil obtained by refining a Crude Pomace Olive Oil containing no more than 0.3 grams of free fatty acids expressed as oleic acid per 100 grams of oil and which meets the criteria for testing and assessment prescribed by this Law;

Olive Pomace Oil is obtained by mixing refined olive oil and Lampante virgin olive oil, which contains no more than 1 gram of free fatty acids expressed as oleic acid per 100 grams of oil and which meets the criteria for testing and assessment prescribed by this Law.

Rules for the production of the quality (extra virgin) oils

1. The olives are harvested from the tree when they are optimally mature and healthy.

2. The olives are stored until they are processed in perforated plastic containers (i.e. crates), while the sacks should be avoided due to squashing and squeezing of olives.

3. The olives can be kept for 48 hours maximum before the harvest, in cold, dark and airy place.

4. Processing is performed in mills that, by cold sealing and mechanical process, extract the oil, respecting the modern hygienic standards. The percentage of oil received ranges between 6-25%, depending on the variety and harvest time.

5. The oil is stored in inox barrels, where after a clarification period and deposition is bottled. The alternative is oil filtration.

6. The oil lasts up to 18 months from the moment of production, but it can last longer (up to 24 months) if it is high quality oil, or shorter (less than 8 months) if it is initially oil of poor quality.

5. VRSTE KRIVOTVORENJA MASLINOVOG ULJA

Najčešći oblici krivotvorenja maslinovog ulja su:

- Nepravilno deklarisanje ulja (npr. navodi se ekstra djevičansko, a ono spada u nižu kategoriju);
- Ulja komine i rafinisano ulje se deklarišu kao ekstra djevičansko;
- Ekstra djevičansko sa znatnim udjelom ulja od komine i rafinisanog ulja, ali to nije deklarisano,
- Miješanje maslinovog ulja sa drugim biljnim uljima,

Jedan od načina da se potrošači zaštite od ovakvih ulja, je poznavanje osnova senzorske analize, odnosno poželjnih i nepoželjnih svojstava maslinovog ulja.

6. SENZORSKA ANALIZA MASLINOVOG ULJA

Senzorska analiza je analitički postupak u kojem se kao detektor koriste ljudska čula, posebno čulo mirisa i ukusa. S tim u vezi, ključni analitički instrument analize je panel, tj. odabrana i obučena grupa ljudi za degustaciju i ocjenu kvaliteta maslinovog ulja. Rezultati ove analize treba da budu tačni, objektivni i ponovljivi.

Panel za ocjenu kvaliteta ulja se sastoji od 8 do 12 osoba. Obukom se rad panela usklađuje na način da među njihovim pojedinačnim ocjenama postoje minimalna odstupanja (npr. rezultat panela je prihvatljiv ukoliko koeficijent varijacije za dato svojstvo kod deset panelista nije veći od 20%).

Prostor za senzorsku analizu treba da ispunjava posebne uslove u pogledu opreme (kabina, čaše, grijač, ostalo), temperature (20-22^{o}C), svjetla (ravnomjerno i neutralno), vlažnosti vazduha (60-70%).

Slika 1: Izgled kabine za senzorsku analizu maslinovog ulja

5. TYPES OF OLIVE OIL FORGERY

The most common forms of forgery of olive oil are:

- Incorrect oil declaration (for example, it says extra virgin, but the oil belongs in the lower category);
- Olive pomace oil and refined oil declared as extra virgin;
- Extra virgin with a significant proportion of olive pomace oil and refined oil, but not declared,
- Mixing olive oil with other vegetable oils,

One way to protect consumers from such oils is to know the basics of sensory analysis, i.e, desirable and undesirable properties of olive oil.

6. SENSORY ANALYSIS OF OLIVE OIL

Sensory analysis is an analytical procedure in which human senses, especially the sense of smell and taste, are used as a detector. In this regard, a key analytical instrument of analysis is panel, i.e. a selected and trained group of people for tasting and evaluating the quality of olive oil. The results of this analysis should be accurate, objective and reproducible. The Panel for Oil Quality Assessment consists of 8 to 12 persons. By training, the work of the panel is adjusted in such a way that there are minimal deviations among their individual grades (for example, the panel result is acceptable if the coefficient of variation for the given property by ten panelists is no greater than 20%).

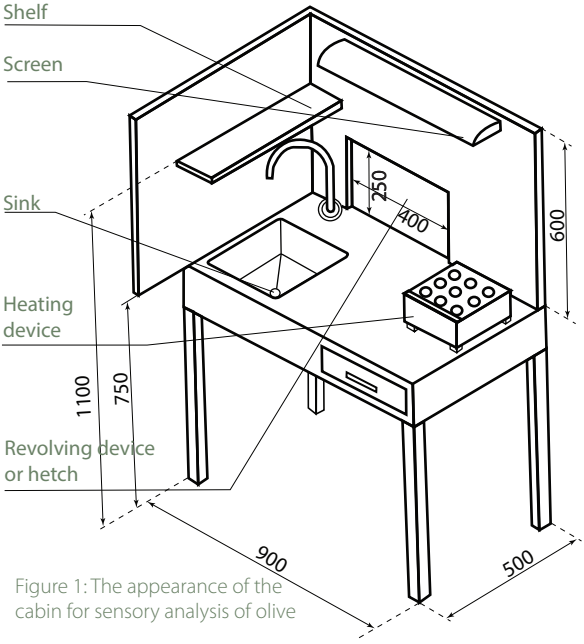


Figure 1: The appearance of the cabin for sensory analysis of olive

The space for the sensor analysis should meet the special conditions regarding equipment (cabins, glasses, heater, other), temperature (20-22ºC), light (even and neutral), and humidity (60-70%).

Kako boja ulja nije pokazatelj kvaliteta ulja, testiranje se mora obavljati u tamno plavim čašama, koje „čuvaju" ocjenjivača od ocjene na osnovu boje.

Period testiranja je obično sredinom jutra i/ili sredinom popodneva, zbog izoštrenosi čula, ali i manje vjerovatnoće osjećaja gladi i/ili sitosti.

Maskimalan broj uzoraka uzastopno ne treba da prelazi tri (3). Ocjena svakog uzorka se pismeno bilježi na standardizovanom obrascu. Koristan set pravila za degustaciju ulja je dat u sledećem prilogu:

Pravila degustacije maslinovog ulja

1. Prije degustacije maslinovog ulja izbjegavati konzumiranje alokohola, kafe, začinjene hrane, pušenje, odnoso svega što može umanjiti sposobnos čula (npr. mirisa i ukusa).

2. Maslinovo ulje se degustira iz malih staklenih čaša, obično plave boje. Npr. potrošači koji kod kuće žele utvrditi kvalitet ulja, mogu koristiti male plastične čaše, bijele ili prozirne.

3. Za ocjenu mirisa/aroma je dovoljno oko 2cl maslinovog ulja (ili jedna supena kašika). Čašu sa uljem je potrebno zagrijat, držeći je u ruci, do 28ºC. Tokom zagrijavanja, čaša je zatvorena rukom. Laganim pokretima vršimo miješanje ulja, sa ciljem oslobađanja aroma koje ostaju u čaši sve do momenta kada ćemo skloniti ruku, otklopiti čašu, prinjeti je nosu i pomirisati. Poželjne arome su voćne, zelene i svježe.

4. Za ocjenu ukusa, potrebno je uzeti gutljaj ulja, pri čemu se isto zadržava u ustima nekoliko sekundi, na način da se razlije po cijeloj površini jezika. Preporučuje se polako udahnuti nekoliko puta, sa ciljem lakšeg utvrđivanja nivoa voćnosti, gorkosti i pikantnosti. Nakon gutanja (ili ispljuvavanja) ulja, potrebno je izdahnuti kroz nos. Blago peckanje u grlu je indikator pikantnosti, ali i svježine maslinovog ulja.

5. Ukoliko nismo sigurni u pojedine karakteristike ulja, proceduru je potrebno ponoviti.

As the color of the oil is not indicator of oil quality, testing must be done in dark blue glasses, which "protect" the graders from the rating based on the color.

The testing period is usually in the middle of the morning and / or mid-afternoon, due to the sharpness of the senses, but also the possibility feeling hunger and / or fullness.

The maximum number of samples repeatedly should not exceed three (3). The assessment of each sample is written in a standardized form. A useful set of rules for oil tasting is given in the following annex:

Rules of olive oil tasting

1. Before tasting olive oil, avoid drinking alcohol, coffee, spicy food, smoking, or anything that can reduce the ability of the senses (e.g. smell and taste).

2. Olive oil is tasted from small glasses, usually blue. For example, Consumers who want to determine the quality of the oil at home may use small plastic cups, white or transparent.

3. About 2cl of olive oil (or one tablespoon) to assess the smell/ aroma is enough. A glass of oil should be warmed, while holding it in the hand, up to approx. 28ºC. During warming, the glass is closed by hand. With light movements we mix the oil, with the goal of releasing the aromas that remain in the cup until the moment when we will remove the hand, uncover the glass, and smell. Preferred aromas are fruity, green and fresh aroma.

4. To estimate the taste, it is necessary to take a sip of oil, while same holding it in the mouth for a few seconds, so that it spills over the entire surface of the tongue. It is recommended to slowly breathe in a few times, in order to easily determine the level of fruitiness, bitterness and piquancy. After swallowing (or spitting out) the oil, it is necessary to exhale through the nose. Mild tingling in the throat is an indicator of piquancy, but also freshness of the olive oil.

5. If we are not sure about certain characteristics of the oil, the procedure needs to be repeated.


42°N19°
EXTRA VIRGIN
OLIVE OIL
2000

Prilikom senzorske analize odnosno degustacije maslinovog ulja, moguće je identifikovati poželjna, ali i nepoželjna svojstva.

Poželjna svojstva su tipična za djevičanska maslinova ulja što karakteriše čisti prirodan sok maslinovog ploda. Tri osnovna poželjna svojstva djevičanskih maslinovih ulja su: voćnost, gorkost i pikantnost.

Voćnost

Maslinovo ulje ima osobinu voćnosti kada miris i ukus podsjećaju na zrelu ili zelenu maslinu ili tek pokošenu travu.

Gorkost

Gorkost karakteristika ulja dobijenog od zelenih i djelimično zelenih maslina, a osjeća se na zadnjem dijelu jezika i to nekoliko sekundi nakon uzimanja ulja u usta.

Pikantnost

Osobina pikantnosti stvara osjećaj peckanja u ustima a posebno u grlu. Osjećaj peckanja u grlu, odnosno pikantnosti traje kratko vrijeme, uglavnom manje od jednog minuta.

- Aromatično bilje (ruzmarin, lavanda i sl.)
- Artičoka,
- Badem (menduo),
- Agrumi – miris koji podsjeća na agrume (limun, pomorandža);
- Bobičasto voće (kupina, malina, borovnica, ribizla),
- Cvijeće;
- Egzotično voće (ananas, banana, mango, papaja);
- Eukaliptus;
- Jabuka,
- Kamilica,
- Kruška,
- Nedozrelo voće,
- Orah (jezgro oraha),
- Paprika (crvena ili zelena),
- Pinija (sjeme),
- Zeleni plod masline,
- Zreli plod masline,
- Zeleni biber,
- Gorkost (ukus zelenih ili djelimitno tamnih maslina),
- Slatko (ukus ulja potpuno zrelih maslina),
- Trajnost povratnog mirisa (tzv. after-taste – odnosi se na osejćaj mirisa i ukusa nakon gutanja ulja),
- Fluidnost,
- Pikantnost – osjećaj peckanja u grlu.

During the sensory analysis, i.e. olive oil tasting, it is possible to identify desired but also undesired properties.

Desirable properties are typical for virgin olive oils characterized by pure natural juice of olive fruit. Three basic desirable properties of virgin olive oils are: fruitiness, bitterness and piquancy.

Fruitness

Olive oil has this characteristic when the smell and taste resemble a mature or green olive or just mowed grass.

Bitterness

This is characteristic of the oil is obtained from green and partly green olives, and you can feel it at the back of the tongue, a few seconds after putting the oil in the mouth.

Piquancy

The characteristic of piquancy creates a feeling of tingling in the mouth and especially in the throat. The feeling of tingling in the throat, or piquancy doesn't last long, usually less than a minute.

- Aromatic herbs (rosemary, lavender, etc.)
- Artichoke,
- Almond
- Citrus - the smell that resembles citrus (lemon, orange);
- Berries (blackberry, raspberry, blueberry, currant),
- Flowers,
- Exotic fruits (pineapple, banana, mango, papaya);
- Eucalyptus,
- Apple,
- Chamomile,
- Pear,
- Olive leaf,
- Fig leaf,
- Immature fruit,
- Grass (green freshly cut),
- Vanilla,
- Green Walnut (nuts),
- Paprika (red or green),
- Pine (seeds),
- Green fruit of the olive tree,
- Mature fruit of the olive tree,
- Tomatoes,
- Pepper,
- Bitterness(taste of green or partially dark olives),
- Sweetness (taste of oil from fully ripe olives),
- Durability of smell (so-called after-taste refers to the sense of smell and taste after swallowing oil),
- Fluidity,
- Piquancy - feeling tingling in the throat

S druge strane, tipična nepoželjna svojstva maslinovog ulja su:

- **Upaljenost** – miris i ukus ulja dobijenog od maslina koje su prije prerade određeno vrijeme čuvane u sabijenom stanju (npr. vreće), te su pretrpjele široki stepen fermentacije.
- **Pljesnivost (vlaga)** – ukus i miris ulja dobijenog od maslina koje su prije prerade određeno vrijeme čuvane u vlažnim uslovima te je na njima došlo do značajnog razvoja plijesni i kvasaca.
- **Uljni talog** – miris i ukus ulja koje je određeno vrijeme ostalo u dodiru sa nataloženim muljem/murgom u skladištu/bačvama.
- **Vinsko (octikavo)** – miris i ukus koji podsjeća na vino ili sirće, uzrokovan fermentacijom koja je dovela do stvaranja sirćetne kiseline, etil acetata i etanola.
- **Metalno** – ukus koji podsjeća na metal, rđeti miris, uzrokovan dužim držanjem ulja u kontaktu sa metalnim površinama.
- **Užeglo** – mirisi i ukusi uzrokovani oksidacijkim procesima.
- **Pregrijano** – mirisi i ukusi tipični za ulja dobijena uz pretjerano i/ili predugo zagrijavanje samljevene paste tokom prerade.
- **Sijeno-drvo** – miris i ukus ulja dobijen preradom sasušenih plodova.
- **Grubo (tjestasto)** – osjećaj gustoće, ljepljivosti i gnjecavosti u ustima.
- **Mazivo** – ukus i miris koji podjsjeća na naftu, mineralno ulje ili mast za podmazivanje.
- **Biljna voda** – ukus i miris koji se javlja zbog dugotrajnog dodira ulja sa biljnom vodom.
- **Salamura** – ukus i miris ulja dobijenog od maslina koje su prije prerade držane u salamuri.
- **Platine/koši** – ukus i miris ulja dobijenog cijeđenjem novim platinama/košima od biljnih vlakana.
- **Zemlja** – ukus i miris ulja dobijenog od maslina skupljenih sa zemlje ili uprljanih zemljom koja nije uklonjena prije prerade.
- **Crvljivo** – ukus i miris ulja dobijenog od maslina koje su napale maslinove muve.
- **Krastavac** – ukus i miris ulja koje je dugo vremena ostalo hermetički zatvoreno u limenkama.

Aromatizovana maslinova ulja

U posljednje vrijeme je zabilježen trend miješanja maslinovog ulja sa različitim voćem i povrćem u cilju širenja ponude proizvoda od masline. Najpopularnija su maslinova ulja sa aromom limuna, peršuna, pomorandže, kafe, luka, tartufa itd. Ipak, potrebno je istaknuti i negativnu stranu ovog novog trenda. Naime, snažnim aromama (npr. limun) moguće je prikriti defekte u ulju, te na taj način miješanjem tzv. lampante ulja sa limunom dobiti aromatizovano ulje, prijatnog mirisa ali u osnovi nejestivo tj. neprikladno za ljudsku ishranu. Ukoliko kupujemo takva ulja, neophodo je pažljivo izabrati proizvođača. Ovakva ulja se ne mogu označavati kao ekstra djevičanska i djevičanska.

On the other hand, the typical undesirable properties of olive oil are:

- **Inflammation** - the smell and taste of oil obtained from olives that have been preserved for a certain period of time in a compact state (e.g. sack), and have suffered a wide degree of fermentation.
- **Mildew (damp)** - the taste and smell of olive oil that has been preserved for a certain period of time in wet conditions, resulting in significant development of mold and yeast.
- **Olive oil residue**- the smell and taste of oil that has been in contact for a certain amount of time with soiling sludge / mug in tanks / barrels.
- **Wine (vinegar)** - a smell and taste that resembles wine or vinegar, caused by fermentation that led to the formation of acetic acid, ethyl acetate and ethanol.
- **Metal** - taste of metal, smell less, caused by longer oil holding in contact with metal surfaces.
- **Scent** - flavors and tastes caused by oxidation processes.
- **Heated** - flavors and tastes typical of oils obtained with excessive and / or too long warming of milled pasta during processing.
- **Hay/tree** - the smell and taste of oil obtained by processing dried fruits.
- **Rough (dough-like)** - a feeling of density, stickiness and paste in the mouth.
- **Lubricant** - taste and smell that resembles oil, mineral oil or lubricating grease.
- **Herbal water** - the taste and smell that occurs due to the long-lasting touch of oil with plant water.
- **Salamura** - the taste and smell of oils obtained from olives that were pre-processed in salamura.
- **Platinum** - the taste and smell of oil obtained by squeezing with new platinum of plant fibers.
- **Soil** - the taste and smell of oils obtained from olives collected from soil or dirt, which has not been removed before processing.
- **Wormy** - the taste and smell of oil from olives that are heavily attacked by olive flies.
- **Cucumber** - the taste and smell of oil that has remained hermetically sealed in cans for a long time.

Flavored olive oils

Lately there has been a trend of mixing olive oil with different fruits and vegetables in order to expand the supply of olive products. The most popular are olive oils with aroma of lemon, parsley, orange, coffee, onion, truffle, etc. Nevertheless, it is necessary to point out the negative side of this new trend. Namely, with strong aromas (e.g. lemon) it is possible to conceal defects in oil, and thus by mixing the so-called Lampante oil with lemon, you get flavored oil, of pleasant smell but essentially inedible, i.e. inappropriate for human consumption. When buying such oils, it is necessary to carefully select the producer. Such oils cannot be labeled as extra-virgin and virgin oils.

7. PREDNOSTI POTROŠNJE MASLINOVOG ULJE

Ključne prednosti korišćenja dobrog maslinovog ulja su:

- Izdvaja se po ugodnoj aromi i ukusu, pri čemu se često konzumira na veoma jednostavan način (npr. uz hljeb).
- Maslinovo ulje je hladno cijeđeni „sok" iz ploda, i jedno je od rijetkih biljnih ulja koje se dobija jednostavnim presovanjem bez rastvarača i/ili industrijskog rafinisanja, a što je slučaj sa nekim drugim uljima. Jestivo je odmah nakon cijeđenja.
- Temeljni je element mediteranske ishrane sa dokazanim blagotvornim dejstvom na ljudski orgnizam.
- Sadrži obilje antioksidanata, kao i vitam E, čime se utiče na djelovanje slobodnih radikala na ćelije organizma.
- Pomaže u prevenciji arteroskleroze, koronarne kardiopatije i stomačnih problema.
- Pozitivno utiče na usporavanje starenja moždanih ćelija, smanjuje nivo takozvanog "lošeg" holesterola (LDL) a povećava koncentraciju "dobrog" holesterola (HDL) takozvanog čistača arterija, i preventivno djeluje na pojavu tumora i propadanja ćelija.

Prednosti organski proizvedenog maslinovog ulja

- Organski proizvod je nastao u kontrolisanoj proizvodnji bez upotrebe sintetičkih hemijskih sredstava, pesticida i đubriva, konzervansa, emulgatora, hormona, zračenja itd.
- Ne sadrži ostatke pesticida, teških mentala, hormona i sl.
- Posjeduje povećanu biološku i nutritivnu vrijednost koja se ogleda u povećanom sadržaju vitamina i minelara, a posebno antioksidanata.
- Ima veću životnu energiju jer se dobija u harmoniji sa prirodom.
- Ima blagodatan značaj u ishrani djece.
- Proizvodnja ne zagađuje životnu sredinu, već poštuje ekološku ravnotežu i koristi održive izvore energije (npr. biomasu, vjetar...).

7. BENEFITS OF CONSUMPTION OF OLIVE OIL

The key benefits of using good olive oil are:

- It is distinguished for its pleasant aroma and taste, often consumed in a very simple way (e.g. with bread).
- Olive oil is a cold pressed olive oil fruit "juice", and is one of the rare vegetable oils obtained by simple pressing without solvent and / or industrial refining, as is the case with some other oils. It is edible immediately after pressing.
- The basic element of Mediterranean nutrition with proven beneficial effect on human organs.
- Contains plenty of antioxidants, as well as vitamin E, which affects the effect of free radicals on the cells of the body.
- Helps in the prevention of arterosclerosis, coronary cardiopathy and stomach problems.
- Positively affects the slowing down of aging of the brain cells, reduces the level of the so-called "cholesterol" (LDL) and increases the level of "good" cholesterol (HDL) of the so-called arterial cleanser, and prevents the onset of tumors and cell degeneration.

Benefits of organically produced olive oil

- The organic product was produced in controlled production without the use of synthetic chemicals, pesticides and fertilizers, preservatives, emulsifiers, hormones, radiation, etc.
- It does not contain residues of pesticides, heavy metals, hormones, etc.
- Has an increased biological and nutritional value reflected in the increased content of vitamins and minerals, especially antioxidants.
- It has a higher life energy because it is obtained in harmony with nature.
- It has a beneficial importance in the nutrition of children.
- Production does not pollute the environment, but respects the ecological balance and uses sustainable sources of energy (e.g. biomass, wind ...).

- Maslinovo ulje, koje je po sastavu slično majčinom mlijeku, preporučuje se kod odvikavanja od sisanja beba, kao i u njegovoj starijoj dobi.
- Stabilnije je tj. otpornije je na visoke temperature od nekih drugih bilnjih ulja, pa je preporučljivo pripremati (npr. pržiti, kuvati) hranu na ekstra djevičanskom maslinovom ulju. Naime, maslinovo ulje ima jednu od najviših „tački dimljenja" jer podnosi temperaturu blizu 200°C. Ipak, sa svakim prelaskom temeperature iznad 28°C, dolazi do gubitka pozitivnih svojstava, pa nije ekonomski isplativo. Drugim riječima, skupo je koristiti maslinovo ulje za prženje, ali je svakako preporučljivo.

8. NAJČEŠĆE ZABLUDE O MASLINOVOM ULJU

Zabluda 1: Udio (%) kiseline u maslinovom ulju je moguće osjetiti probanjem (degustacijom) ulja

Istina 1: Procenat kiseline se može izmjeriti samo laboratorijskom (fizičko-hemijskom) analizom.

Zabluda 2: Maslinovo ulje dobijeno tradicionalnih presama je bolje i sadrži više hranjivih i zdravstveno korisnih supstanci.

Istina 2: Tradicionalna tehnologija prerade u kamenim (željeznim) mlinovima i presama sa platinama (košima) predstavljaju „otvorene" sisteme prerade, usljed čega je vjerovatnoća kontaminacije veća. Navedeno negativno utiče na održavanje sanitarno-higijenskih standarda, što zahtjeva znatno veće troškove (npr. vrijeme čišćenja, trajanje prerade itd.) proizvodnje. Sa druge strane, savremeni mlinovi, izrađeni od inoksa, potpuno ili djeleimično automatizovani, obezbjeđuju stalniji kvalitet i viši nivo higijene tokom prerade maslina.

- Olive oil, which is similar in composition to breast milk, it is recommended for weaning from breastfeeding of babies and toddlers.
- More stable, i.e. it is more resistant to high temperatures than some other herbal oils, so it is advisable to prepare (for example, fry, cook) foods on extra virgin olive oil. Namely, olive oil has one of the highest "smoke points" because it tolerates temperature close to 200ºC. However, with each overflow of temperatures above 28ºC, there is a loss of positive properties, so it is not economically profitable. In other words, it is expensive to use olive oil for frying, but it is certainly recommended.

8. THE MOST COMMON MISCONSEPTIONS ABOUT OLIVE OIL

Misconception 1: The percentage (%) of acid in olive oil can be felt by oil tasting.

Truth 1: The percentage of acid can be measured only by laboratory (physical-chemical) analysis.

Misconception 2: Olive oil derived from traditional presses is better and contains more nutrients and health-beneficial substances.

Truth 2: Traditional processing technology in stone (iron) mills and platinum presses (baskets) are "open" processing systems, which is why the probability of contamination is higher. The above mentioned negatively influences the maintenance of sanitary and hygienic standards, which requires significantly higher costs (e.g. cleaning time, processing duration, etc.) of production. On the other hand, modern mills, made of inox, are potentially or partially automated; provide a more consistent quality and a higher level of hygiene during olive processing.

Zabluda 3: Boja maslinovog ulja je pokazatelj kvaliteta.

Istina 3: Boja, koja se uglavnom kreće u nijansama zelene i žute, pretežno zavisi od vrste (sorte) maslina i vremena berbe. Boja nije (primarni) pokazatelj kvaliteta ulja, pa se zbog toga profesionalna degustacija ulja radi u plavim čašama, koje „kriju" boju i „čuvaju" ocjenjivača od preranog donošenja odluke o kvalitetu ulja.

Zabluda 4: Maslinovo ulje ne treba da bude gorko, niti da ima note „zelenog" i voćnog ukusa.

Istina 4: Voćnost, pikantnost i odgovarajuća goričina su tipični za svježe, mlado i kvalitetno maslinovo ulje, jer su posljedica prisustva polifenola odnosno antioksidanata1. Loše maslinovo ulje biće kiselo, octikavo (sirćetno), užeglo, upaljeno, praćeno nesumnjivim neprijatnim osjećanjem.

Zabluda 5: Maslinovo ulje iz prvog cijeđenja („first pressed") je najbolje.

Istina 5: Postoji samo jedno cijeđenje kojim se dobija maslinovo ulje, nakon čega se komina više ne cijedi ili presuje. Tačnije, cijeđenjem komine dobija se ulje koje se ne može kategorizovati kao djevičansko ni kao maslinovo (vidjeti kategorije ulja iz dijela 2). Zbog toga nije ispravno koristiti termin „prvo cijeđeno" maslinovo ulje. Naime, ovo je jedan od najčešćih primjera dovođenja potrošača u zabludu čime se zloupotrebljava njihovo povjerenje

Misconception 3: The color of olive oil is an indicator of quality.

Truth 3: The color, which is mostly in shades of green and yellow, predominantly depends on the type (variety) of the olive and the harvest time. The color is not (primary) indicator of oil quality, and therefore professional oil tasting is done in blue glasses, which "hide" the color and "keep" the assessors from prematurely deciding on the quality of the oil.

Misconception 4: Olive oil should not be bitter, nor have notes of "green" and fruit flavor.

Truth 4: Fruitiness, spiciness and proper bitterness are typical for fresh, young and high-quality olive oil, because they the consequence of the presence of polyphenols or antioxidants. Bad olive oil is sour, acetic, stale, inflamed, followed by an undeniable unpleasant sensation.

Misconception 5: The first pressed olive oil is the best.

Truth 5: There is only one pressing that produces olive oil, after which pomace no longer squashes or presses. More precisely, by pressing the pomace, oil is obtained which cannot be categorized as virgin or olive oil (see categories of oil from part 2). It is therefore not right to use the term "first-pressed" olive oil. Namely, this is one of the most common examples of misleading consumers, thereby abusing their trust.

Zabluda 6: Ako maslinovo ulje „žeže“ u grlu, radi se o dobrom ulju.

Isitna 6: Ekstra djevičansko maslinovo ulje izaziva „peckanje“ u grlu, pri čemu isto nestaje nakon nekoliko sekundi. Ukoliko osjećaj peckanja traje duže, uz određeni nivo neprijatnosti, onda se radi o ulju koje je lošeg kvaliteta, koje treba izbjegavati. Uobičajeno je da užeglost ili drugi defekt uzrokuje ovakav ili sličan neprijatan ukus kod degustacije ulja.

Zabluda 7: Miris maslinovog ulja nije važan za određivanje njegovog kvaliteta.

Istina 7: Dobro maslinovo ulje treba da posjeduje prijatne voćne i zelene arome (npr. lišće masline, trava, badem, pomidora, jabuka, banana itd.). Loše maslinovo ulje obično ima miris na salamuru, suvu travu, vlagu, zemlju, metal, zapaljeno drvo itd.

Zabluda 8. Za određivanje kvaliteta/kategorije ulja je dovoljna hemijska analiza (npr. masne kiseline).

Istina 8: Maslinovo ulje je jedno od rijetkih prehrambenih proizvoda za čije je prisustvo na tržištu, pored analize fizičko-hemijskih pokazatelja, neophodna i analiza ukusa i mirisa. Stoga, pored hemijske analize, neophodno je sprovesti senzorsku analizu, koja je kao analitički postupak, objektivna, tačna i ponovljiva. Nezamjenjiva je u klasifikaciji ulja (npr. ekstra djevičansko), određivanju organo-leptičnog profila sorti maslina (npr. lećino, ascolana, kalamata) i definisanju geografs ke oznake.

Zabluda 9. Maslinovo ulje je otporno na sunce, temperaturu, kiseonik i svjetlost.

Istina 9: Tri najveća neprijatelja maslinovog ulja su temperatura, svjetlost i kiseonik. Zbog navedenog, ulje je najbolje čuvati u tamnim staklenim flašama (ali i u aluminijumu), na sobnoj temeperaturi, pri čemu treba izbjegavati držanje u frižideru (tj. ispod 7°C) kao i svako grijanje ulja (tj. iznad 28°C). Kako je ulje osjetljivo na svjetlost, treba izbjegavati držati ulje na svjetlim mjestima, a posebno na suncu. Otvorenu flašu ulja je preporučljivo potrošiti u razumno kratkom roku (npr. nekoliko sedmica) jer kontakt sa vazduhom/kiseonikom dovodi do oksidacije koja umanjuje kvalitet ulja (tzv. užeglost). U tom smislu, manja pakovanja (npr. 0,5 ili 0,75 l) su praktičnija.

Zabluda 10. Masline se isključivo kupe i ulje dobijeno od takvih maslina je dobro.

Istina 10: Dobro ulje (npr. ekstra djevičansko) se može dobiti isključivo od zdravih, optimalno zrelih, plodova ubranih sa stabla, prerađenih u narednih 48h, hladnim cijeđenjem mehnaičkim putem, tj. u mlinu koji je čist i gdje temperatura ne prelazi 27°C. Od kupljenih maslina se uglavnom može dobiti ulje sa visokim sadržajem SMK, često neprikladnim za ljudsku ishranu.

Misconception 6: If olive oil "burns" in the throat, it is good oil.

Truth 6: Extra virgin olive oil causes "burning" in the throat, which also disappears after a few seconds. If the sensation of burning lasts longer, with a certain level of discomfort, then it is oil of poor quality that should be avoided. It is common that rancidity or other defect causes this or a strange unpleasant taste in oil tasting.

Misconception 7: The olive oil smell is not important for determining its quality.

Truth 7: Good olive oil should have pleasant fruity and green aromas (e.g. olive leaves, grass, almond, tomato, apple, banana, etc.). Poor olive oil usually has a smell of salamander, dry grass, moisture, soil, metal, burnt wood, etc.

Misconception 8. Chemical analysis (for example, fatty acids) is sufficient to determine the quality / category of oil.

Truth 8: Olive oil is one of the few food products for which presence on the market, in addition to the analysis of physico-chemical indicators, it is necessary to analyze taste and smell. Therefore, in addition to chemical analysis, it is necessary to carry out a sensory analysis, which, as an analytical procedure, is objective, accurate and reproducible. It is irreplaceable in the classification of the oil (e.g. extra virgin), the determination of the sensory profile of olive cultivars (e.g. leccino, ascolana, kalamata) and the definition of a geographical indication.

Misconception 9. Olive oil is resistant to sun, temperature, oxygen and light

Truth 9: The three biggest enemies of olive oil are temperature, light and oxygen. For this reason, it is best to keep the oil in dark glass bottles (but also in aluminum) at room temperature, avoiding holding in the refrigerator (i.e. below 7ºC) as well as any oil heating (i.e. above 28ºC). As the oil is sensitive to light, you should avoid holding oil in bright places, especially in the sun. An open oil bottle is recommended to be consumed in a reasonably short time (for example, several weeks) because contact with air / oxygen leads to oxidation which reduces the quality of the oil (the so-called rancidity). In this sense, smaller packages (e.g. 0.5 or 0.75 l) are more convenient.

Misconception 10. Olives are exclusively harvested and the oil obtained from such olives is of high- quality.

Truth 10. High quality oil (e.g. extra virgin) can be obtained exclusively from healthy, optimally mature, fruits harvested from the trees, processed in the next 48 hours, by cold -pressing mechanical means, i.e. in a mill that is clean and where the temperature does not exceed 27 ° C. The oil with a high proportion of free fatty acids can usually be obtained from the purchased olives, which is often unsuitable for human consumption.

9. KUĆA MASLINA - Stari Bar

Izgradnja Kuće maslina u Starom Baru će biti kapitalan projekat države Crne Gore i Opštine Bar kako za maslinare Bara tako i za maslinare Crne Gore i regiona. Kuća maslina će pored administrativnog dijela i prostora za edukaciju maslinara sadržati pogon za preradu maslina gdje će se prerada vršiti po savremenim metodama i proizvoditi ulje vrhunskog kvaliteta. Uz kapacitete za preradu maslina biće obezbjeđen i prostor za skladištenje, flaširanje i etiketiranje maslinovog ulja. Kuća maslina će biti primjer dobre prakse gdje će svi uljari, maslinari, potrošači, turisti i svi drugi moći da vide savremeni i standardizovan kompletan proces proozvodnje maslinovog ulja.

Uz navedene sadržaje, Kuća maslina će imati i prodajni prostor gdje će crnogorski maslinari moći da izlože i prodaju svoje maslinovo ulje ali samo ono koje u potpunosti ispunjava standarde kvaliteta i čija ambalaža odgovara svim zahtjevima zakona i propisa.

Posjetioci će u posebno opremljenoj sali za degustaciju moći da degustiraju maslinovo ulje te da pohađaju kretke kurseve i posebne obuke iz oblasti senzorske procjene kvaliteta maslinovog ulja.

Kuća maslina će biti centar crnogorskog maslinarstva i njenom izgradnjom će se dodatno podstaći razvoj ove poljoprivredne grane te upotpuniti turistička i gastronomska ponuda Bara i okoline.

9. HOUSE OF OLIVES - Stari Bar

The construction of the Olive House in Stari Bar will be a capital project of the state of Montenegro and the Municipality of Bar, both for the olive growers of Bar and for the olive growers of Montenegro and the region. Apart from the administrative part and the area for education of olive growers, the olive house will include olive processing plant where the processing will be done in accordance with modern methods and produce high quality oil. In addition to the olive processing facilities, there will also be space for storage, bottling and labeling of olive oil. The olive house will be an example of good practice where all oil producers, olive growers, consumers, tourists and all others will be able to see the modern and standardized complete process of producing olive oil.

Apart from the mentioned contents, the House of Olives will also have a sales area where Montenegrin olive growers will be able to exhibit and sell their olive oil, but only those that fully meet the quality standards and whose packaging meets all the requirements of the laws and regulations. Visitors will be able to taste olive oil in a specially equipped tasting room and attend courses and special trainings from the sensory assessment of the quality of olive oil.

The House of olives will be the center of Montenegrin olive growing and its construction will additionally encourage the development of this agricultural branch, and complement the tourist and gastronomic offer of Bar and the surrounding area.

10. RJEČNIK

Biljna (vegetabilna) voda – tečni ostatak nakon prerade i cijeđenja ulja.

Centrifuga – dio linije za preradu maslina, koja zbog specifične težine odvaja ulje od vode, i alternativa je presovanju.

Gorko - ukus svojstven uljima dobijenim od zelenih i/ili djelimično obojenih maslina (tzv. šara).

Harmonija (harmonično ulje) – osobina/atribut maslinovog ulja nastala kao posljedica prisutnosti odgovarajućih stimula u prikladnom odnosu.

Hladno cijeđenje – postupak cijeđenja ulja pri čemu temepratura ne prelazi 27°C.

Komina – čvrsti ostatak nakon prerade maslina i cijeđenja ulja.

Kontinuirana prerada – princip rada modernih mlinova, koji u kontinuitetu (bez prekida neke od faza) i paraleleno vrše pranje, mljevenje, mješanje i cijeđenje ulja. Na drugoj strani, tradicionalni kameni mlinovi nemaju ovu mogućnost.

Monokultivar – maslinovo ulje dobijeno preradom maslina samo jedne sorte. Ipak, mješanje plodova različitih sorti u preradi, u određenoj mjeri, pruža mogućnost dobijanja ulja višeg kvaliteta, posebno u pogledu organoleptičkih osobina.

Panel – grupa ocjenjivača koja je odabrana i obučena za senzorsku analizu maslinovog ulja u određenim uslovima (npr. prostorija, oprema, temperatura itd.).

Pikantno – osjećaj peckanja u grlu i usnoj duplji koji je svojstven uljima dobijenim od nedozrelih maslina (npr. tokom rane berbe).

Randman – udio ulja u plodu masline, zavisi od hemijskog sastava ploda uslovljenog sortom i uslovima uzgoja, i kreće se od 6 do 25%.

10. VOCABULARY

Vegetable water - liquid residue after processing and pressing of oil.

Centrifuge - a part of the olive processing line, which, due to its specific gravity, separates oil from water, and is an alternative to pressing.

Bitterness - the taste characteristic for oils obtained from green and / or partially colored olives (so-called pattern).

Harmony (harmonic oil) - the property / attribute of olive oil produced as a result of the presence of appropriate stimuli in a suitable ratio.

Cold pressing - the process of oil extraction, where the temperature does not exceed 27°C.

Pomace - solid residue after olive processing and pressing.

Continuous processing - the principle of operation of modern mills, which continuously (without interruption of some of the phases), and at the same time do the washing, grinding, mixing and pressing the oil. On the other hand, traditional stone mills do not have this possibility.

Monocultivar - olive oil obtained by processing olives of only one variety. However, the mixing of fruits of different varieties in processing, in a certain proportion, provides the possibility of obtaining higher quality oil, especially in terms of organoleptic properties.

Panel - a group of evaluators selected and trained for the sensory analysis of olive oil under certain conditions (e.g. rooms, equipment, temperatures, etc.).

Spiciness - a feeling in the throat and in oral cavity that is characteristic for oils obtained from immature olives (e.g. during early harvest).

Randman - the share of oil in the fruit of the olive, it depends on the chemical composition of the fruit conditioned by the variety and conditions of breeding, and ranges from 6 to 25%.

Rana berba – berba koja obično počinje početkom ili sredinom oktobra, pri čemu je pikantnost, ali i ukupna vrijednost pokazatelja kvaliteta ulja veća.

Senzorska analiza - analitički postupak u kojem se kao detektor koriste ljudska čula, posebno čulo mirisa i ukusa. Rezultati ove analize treba da budu tačni, objektivni i ponovljivi. Pored laboratorijske analize, neophodna je za tržišnu klasifikaciju ulja.

Slobodne masne kiseline (SMK) – pokazatelj su kvaliteta maslina u trenutku prerade. Utiču na oksidaciju ulja, čime njihov viši udio doprinosi bržem kvarenju ulja. Maslinova ulja sa udjelom SMK manjim od 0,8 su prihvatljiva za ljudsku ishranu.

Sud za čuvanje ulja – štiti ulje od svjetlosti, kiseonika, toplote i vlage, lako periv, inertan u odnosu na ulje i ne smije otpuštati sastojke u ulje. Najčešći materijali su inoks, čelik, lim, staklo i plastika. Tradicionalne kamenie ili keramičke posude nisu prikladne za čuvanje ulja.

Ulj(a)ni talog – tamni talog koji se stvara na dnu posude u kojoj je skladišteno ulje i potrebno ga je blagovremeno odstranjivati. Savremene bačve za čuvanje ulja imaju konusno dno sa česmom, što umnogome olakšava ovaj posao. U slučaju dužeg zadržavanja taloga (tzv. murga), ulje može poprimiti neugodan miris sa osjetnim padom kvaliteta.

Voćnost - Maslinovo ulje ima osobinu voćnosti kada miris i ukus podsjećaju na zrelu ili zelenu maslinu ili tek pokošenu travu.

Early harvesting - a harvest that usually begins in early or mid-October, where piquancy, but also the overall value of oil quality indicators is higher.

Sensory analysis - an analytical procedure in which the human senses, especially the sense of smell and taste, are used as a detector. The results of this analysis should be accurate, objective and reproducible. In addition to laboratory analyzes, market classification of oil is necessary.

Free fatty acids - an indicator of the quality of olives at the time of processing. They affect the oxidation of the oil, which contributes to the faster deterioration of the oil. Olive oils with a free fatty acid content of less than 0.8 are acceptable for human consumption.

Tank - protects oil from light, oxygen, heat and moisture, easily washable, inert with respect to oil and must not release ingredients into oil. The most common materials are inox, steel, sheet, glass and plastic. Traditional stone or ceramic containers are not suitable for storing oil.

Oil residue - a dark precipitate formed at the bottom of the container in which the oil is stored and needs to be removed in a timely manner. Modern oil storage barrels have a conical bottom with a faucet, which makes this work much easier. In case of long-term residue, the oil can take on an unpleasant smell with a noticeable drop in quality.

Fruitness - Olive oil has this characteristic when the smell and taste resemble a mature or green olive or just mowed grass.

Stara Maslina u blizini Starog Bara (stara preko 2000 godina)

Old Olive Tree near Old Town Bar (older than 2000 years)

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Realizacija projekta omogućena je zahvaljujući finansijskoj podršci Opštine Bar u okviru Javnog konkursa za raspodjelu sredstava iz budžeta Opštine Bar za 2019. godinu.
The implementation of the project was made possible thanks to the financial support of the Municipality of Bar within the Public Invitation for allocation of funds from the budget of the Municipality of Bar for 2019.