

Industrija autohtonih mlijecnih proizvoda u Bosni i Hercegovini



Indigenous dairy products industry in Bosnia and Herzegovina

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## 1. OPĆE INFORMACIJE O BOSNI I HERCEGOVINI

**Službeni naziv:** Bosna i Hercegovina (BiH)

**Političko uređenje:** Parlamentarna demokratija s dvodomnim parlamentom; BiH sačinjavaju Federacija Bosne i Hercegovine (FBiH), Republika Srpska (RS) i Distrikt Brčko

**Površina:** 51.209 km<sup>2</sup>

**Stanovništvo:** 3,8 miliona

**Geografski položaj:** Bosna i Hercegovina se nalazi na Balkanskom poluostrvu i graniči s Hrvatskom (932 km) na sjeveru i zapadu, Srbijom (312 km) i Crnom Gorom (215 km) na istoku, te Jadranskim morem na jugu zemlje

**Službeni jezici u BiH:** bosanski, srpski i hrvatski  
(zbog svoje međusobne sličnosti često se označavaju kao „lokalni jezik“)

**Religije u BiH:** islam, pravoslavlje i katoličanstvo

**Najveći gradovi:** Sarajevo (glavni grad), Banja Luka, Mostar i Tuzla

**Valuta:** konvertibilna marka (BAM)

**Kursna lista:** 1EUR = 1,95583 BAM

**Bruto nacionalni dohodak (2009):** 12,2 milijarde eura

**Internet domena:** .ba

## 1. GENERAL INFORMATION ABOUT BOSNIA AND HERZEGOVINA

**Official Name:** Bosnia and Herzegovina (BH)

**Political system:** Parliamentary democracy with a bicameral parliament; BH is composed of Federation of Bosnia and Herzegovina (FBiH), Republika Srpska (RS) and Brčko District

**Area:** 51,209 km<sup>2</sup>

**Population:** 3.8 million

**Geographical location:** Bosnia and Herzegovina is located on the Balkan Peninsula, bordering Croatia (932 km) on the north and west, Serbia (312 km) and Montenegro (215 km) to the east and the Adriatic Sea in the south of the country

**Official languages in BH:** Bosnian, Serbian and Croatian  
(owing to their mutual similarities these are often labelled as "the local language")

**Religions in BH:** Islam, Orthodox Christianity and Catholicism

**Major cities:** Sarajevo (the capital), Banja Luka, Mostar and Tuzla

**Currency:** Convertible Mark (BAM)

**Exchange rates:** 1EUR = 1.95583 BAM

**Gross National Product (2009):** 12.2 billion euros

**Internet domain:** .ba

## 2. O BOSNI I HERCEGOVINI

Bosna i Hercegovina posjeduje veliki potencijal u poljoprivredi i u sektoru prerade hrane zbog brojnih pogodnih uvjeta kao što su:

- preko 1,5 miliona hektara poljoprivrednog zemljišta,
- odlični klimatski uvjeti kao i plodno tlo, te visoko kvalitetna voda,
- većina tla u sebi ne sadržava hemijska gnojiva i nema praksu upotrebe pesticida.

Osim toga, BiH ima dugu tradiciju u ovom sektoru, kao i iskusnu i vještu radnu snagu. Svi ovi uslovi stvaraju sjajno okruženje za intenzivan uzgoj stoke i razvoj stočarstva kao poljoprivredne grane, koja je i tradicionalno dugo prisutna u BiH.

### • Pogodni klimatski uvjeti

Na jugu zemlje preovladava blaga submediteranska klima, koju karakteriziraju duga topla ljeta te blage zime. Više od 200 sunčanih dana i u prosjeku  $1400 \text{ L/m}^2$  padavina godišnje omogućava uzgoj skoro svih poljoprivrednih kultura. U centralnom dijelu BiH vlada planinsko-kontinentalna klima. Veliki planinski pašnjaci koji su bogati vodom omogućavaju intenzivno obiman uzgoj stoke. Ovi predjeli isto tako sa svojim klimatskim pogodnostima i osobinama pružaju idealne uvjete za organski uzgoj stoke. Na sjeveru zemlje je tipična kontinentalna klima. Zbog raznolike klime i topografije zemlje, postoje veoma povoljni uvjeti za uzgoj razne stoke kao i hrane životinjskog porijekla.

### • Organska hrana

Bosna i Hercegovina ima velike površine ekološke, nezagađene i obradive zemlje, čistih izvora vode i čistog zraka što predstavlja optimalne uvjete za intenzivnu organsku proizvodnju kako biljnih tako i životinjskih kultura. Dodatne prednosti su relativno niski troškovi radne snage i rijetka upotreba mineralnih gnojiva te hemikalija za zaštitu biljaka u BiH u zadnjih 10 godina.

Svijest o zdravlju i tjelesnom izgledu dovela je do konstantnog rasta potražnje za tzv. „laganim”, „zdravim”, „funkcionalnim” i organskim prehrabbenim proizvodima, što uz blizinu najvećih svjetskih tržišta čini ovaj ekonomski sektor izuzetno privlačnim za ulaganja. Istovremeno,

## 2. ABOUT BOSNIA AND HERZEGOVINA

Bosnia and Herzegovina has great potentials in agriculture and food processing sector thanks to numerous favorable conditions such as:

- over 1.5 million hectares of agricultural land;
- excellent climate and fertile soil, as well as high quality water;
- most soils do not contain chemical fertilizers and there is no practice of using pesticides.

In addition, BH has a long tradition in this sector as well as experienced and skilled labor. All these factors create excellent environment for intensive animal husbandry and development of livestock farming as an agricultural sector that has a long tradition in BH.

### • Favourable Climate

The south of the country is dominated by a mild sub-Mediterranean climate, characterized by long and hot summers and mild winters. More than 200 sunny days and the annual average precipitation of  $1400 \text{ L/m}^2$  allows for the cultivation of virtually all crops. The central part of BH has mountainous-continental climate. Vast mountain pastures, abundant in water, allow for extensive and intensive livestock farming. With its favorable climate and features, these areas offer ideal conditions for organic livestock farming. Continental climate is typical in the northern part of the country. Given the diverse climate and topography of the country, there are highly favorable conditions for farming a variety of livestock and food of animal origin.

### • Organic Food

Bosnia and Herzegovina has large areas of ecologically sound, unpolluted and fertile land, clean water sources and clean air, which represent the optimal conditions for intensive organic farming of plant cultures and animals. Further advantages include relatively low labor costs and the rare usage of mineral fertilizers and chemicals for plant protection in BH in the last decade.

Awareness about health and physical appearance has led to constant growth in demand for the so-called "light", "healthy", "functional" and organic food products, which, in addition to the

trajno smanjenje broja površina za uzgoj organske hrane u Evropi čini BiH vodećim potencijalnim proizvođačem organske hrane na ovom kontinentu.

U posljednje vrijeme sve se više govorи o organskom uzgoju stoke kao i organskim namirnicama životinjskog porijekla. Bosna i Hercegovina ima idealne preduvjete za organski uzgoj stoke kao i proizvodnju organske hrane uopće.

Organska kontrola (OK) je certifikacijsko tijelo u BiH za certifikaciju proizvođača organske hrane koje je akreditirano od IFOAM-a 2007. godine.

### **3. INDUSTRija MLIJEKA U BOSNI I HERCEGOVINI**

Proizvodnja mlijeka smatra se strateškim poljoprivrednim sektorom u BiH, a oslonjena je na uzgoj stoke, ovaca i koza. Proizvodnja mlijeka je najčešći oblik poljoprivredne proizvodnje, uzimajući u obzir činjenicu da oko 100.000 poljoprivrednih domaćinstava drži krave. Od tog broja, oko 33.000 domaćinstava proizvodi mlijeko u komercijalne svrhe.

Na teritoriji Bosne i Hercegovine u 2008. godini bilo je u funkciji 35 mljekara, od čega su 22 radile na području FBiH i 13 na području RS-a. Pored registriranih mljekara, posluje i jedan broj malih porodičnih mljekara, ali one su isključivo usmjerene na neposredno lokalno tržište.

Prema procjenama, kapacitet fabrika za preradu mlijeka koje su poslovali u 2008. godini (35 mljekara) iznosio je oko 400 miliona litara (260 miliona litara u FBiH, dok je u RS-u iznosio 160 miliona), a iskorištenost je bila oko 59%.

Broj mljekara certificiranih prema međunarodnim standardima je sljedeći: HACCP – 10; ISO 9001 – 8; ISO 22000 – 2. Ukupan broj mljekara koje izvoze svoje proizvode van BiH je 11.

U strukturi prerade mlijeka u bosanskohercegovačkim mljekarama tečni mliječni proizvodi učestvuju sa 77,1%, sir sa 19,2%, a ostali proizvodi sa 4,7%. Struktura u oblasti prerade mlijeka nije se značajno mijenjala još od 2002. godine, gdje preovladavaju tečni proizvodi, od kojih najviše dominira UHT sterilno mlijeko.

vicinity of the world's largest markets, make this economic sector extremely attractive for investment. At the same time, permanent reduction of the number of areas for cultivating organic food in Europe makes BH a potentially leading producer of organic foods on this continent.

Lately, the issue of organic farming of livestock and organic foods of animal origin has been increasingly addressed. Bosnia and Herzegovina has ideal prerequisites for organic livestock farming, and organic food production in general.

Organic Control (OK) is a certification body in BH for the certification of organic food producers, accredited by IFOAM in 2007.

### **3. MILK INDUSTRY IN BOSNIA AND HERZEGOVINA**

Milk production is considered a strategic agricultural sector in BH, involving cattle, sheep and goats husbandry. Milk production is the most common form of agricultural production, taking into account the fact that about 100,000 farm households keeps cows. Of the number, about 33,000 households produce milk for commercial purposes.

In 2008, there were 35 dairies operational in Bosnia and Herzegovina, of which 22 in the FBiH and 13 in RS. Apart from the registered dairy farms, there is a certain number of small family dairy farms, but these are exclusively focused on the immediate local market.

According to estimates, the capacity of milk processing factories that operated in 2008 (35 dairy farms) was about 400 million liters (260 million liters in the FBiH, while in the RS the number was 160 million), and the utilization was around 59%.

The number of dairies certified under international standards is as follows: HACCP – 10, ISO 9001 – 8; ISO 22000 – 2. The total number of dairy farms that export their products outside of BH is 11.

In the breakdown of milk processing in Bosnian-Herzegovinian dairy farms, liquid dairy products account for 77.1%, cheese for 19.2% and other products 4.7%. Figures in milk processing, with predominant liquid products and sterile UHT milk as leading among them, did not significantly change since 2002.

#### **4. PROIZVODNJA MLIJEČNIH PROIZVODA U BOSNI I HERCEGOVINI**

Nivo proizvodnje svih proizvoda povećao se svake godine u odnosu na prethodnu godinu, osim slatkog pasteriziranog mlijeka i mlijeka u prahu. Najveći porast u proizvodnji postignut je kod UHT steriliziranog mlijeka, oko 26,9 miliona litara, kao posljedica uvođenja novih proizvodnih kapaciteta i značajnog porasta izvoza.

Proizvodnja fermentiranih konzumnih proizvoda (jogurt i kiselo vrhnje) na nivou BiH povećala se za oko 17% u odnosu na prethodnu godinu. Međutim, proizvodnja u FBiH zabilježila je dinamičan porast (preko 30%), dok je u RS stagnirala.

Ukupna proizvodnja sira povećana je za 15% u odnosu na prethodnu godinu i još uvijek ima nisko učešće u cjelokupnoj preradi mlijeka (19,2%). Ohrabruje činjenica da je primijećen značajan pozitivan pomak u strukturi proizvodnje sira prema proizvodnji sireva s dužim vijekom trajanja, naročito tvrdim, polutvrdim i kriška srevima. Proizvodnja namaza i vrhnja je za 49% veća u odnosu na prethodnu godinu i ima tendenciju dinamičnog razvoja u narednom periodu.

Mlijeko u prahu i maslac imaju značajnog udjela u cjelokupnoj proizvodnji mliječnih proizvoda, a njihova proizvodnja je organizirana uglavnom u obliku nusproizvoda ili kao način rješavanja problema višaka mlijeka.

#### **4. PRODUCTION OF DAIRY PRODUCTS IN BOSNIA AND HERZEGOVINA**

The production level of all products, except for sweet pasteurized milk and milk powder, has been increasing every year compared to the previous. The largest increase in production was achieved with UHT sterile milk, about 26.9 million liters, as a result of the introduction of new production capacities and a significant rise in exports.

Production of consumable fermented products (yogurt and sour cream) at the state level has increased by about 17% over the previous year. However, production in the FBiH recorded dynamic growth (over 30%), while it stagnated in RS.

Total cheese production was increased by 15% compared to the last year and still has a low participation in the overall processing of milk (19.2%). An encouraging fact is the observed significant positive shift in the structure of cheese production towards the production of cheeses with longer lifetime, especially hard and semi-hard cheese and slice cheese. Production of spreads and cream is 49% higher than the previous year, with a tendency of dynamic development in the future.

Milk powder and butter have a significant share in the overall production of dairy products and their production is organized mainly in the form of by-products or as a way of solving the problem of milk surplus.

## 5. AUTOHTONI PROIZVODI

Potrošači su danas svjesni značaja ishrane i njenog učinka na zdravlje i kvalitet života. Stvara se potreba za širom lepezom kvalitetnih prehrambenih proizvoda, među kojima sir igra važnu ulogu. U odnosu na mlijeko, on sadrži veću količinu proteina i masti, a posebno je značajan po visokom sadržaju kalcija. Pored kvantitativnih promjena na komponentama mlijeka, u siru se tokom zrenja dešavaju i složeni biohemski procesi pri kojima se pojedini sastojci znatno mijenjaju i razlažu na prostije komponente, što omogućava lakše varenje i bolju resorpciju u ljudskom organizmu. Stoga, danas sir predstavlja važnu namirnicu u ishrani ljudi, ali sve više ima i širi značaj predstavljajući kulturno i tradicionalno ogledalo neke zemlje. Svi sirevi autohtoni za neko područje predstavljaju blago zemlje iz koje potječu, označavajući njenu tradiciju i kulturnu baštinu. Oni čine važno obilježje nekog naroda i zemlje i pokazatelj su opće i tehničke kulture.

Proizvodnja i konzumiranje sira datira unazad nekoliko hiljada godina, što ga čini jednom od najstarijih namirnica. Najveći broj sireva nosi ime po svom porijeklu, ali je čest slučaj da su pojedini gradovi i regioni postali poznati po srevima koji nose njihovo ime. U vremenu razvoja proizvodnje hrane, tradicionalna proizvodnja autohtonih mliječnih proizvoda, a posebno sireva, dobija sve veći značaj.

Proizvodnja autohtonih mliječnih proizvoda u Bosni i Hercegovini sačuvana je stoljećima, uprkos brojnim ratovima, raseljavanju i učestalim migracijama stanovništva u gradove. Ovi proizvodi odlikuju se velikom raznolikošću.

U BiH se danas proizvodi niz autohtonih sireva kao što su: Livanjski sir, Vlašićki sir, Mješinski sir, Masni sir, Vareni sir, Kalenderovački sir, Posni sir ili Torotan, Svježi kiseli sir, Sušeni kiseli sir, Tvrđi kozji sir iz ulja, Bijeli kozji sir, Zajednica, Urda ili Hurda, Zarice itd.

Br.	Vrsta proizvoda	Jedinica mjere	2006.	2007.	2008.
1.	Slatko paster. mlijeko	000 liter	6.554	5.900	4.454
2.	UHT ster. mlijeko	000 liter	91.088	100.027	126.979
3.	Jogurt i ostali ferment. proizvodi	000 liter	28.984	32.546	37.093
4.	Pavlaka i kisela pavlaka	000 liter	10.715	12.151	15.486
5.	Sir				
6. •	Tvrdi i polutvrdi	tona	1.990	1.965	2.596
7. •	Svježi	tona	2.145	2.902	2.435
8. •	Kriška, Feta itd.	tona	473	212	752
9. •	Ostali	tona	232	186	332
10. •	Ukupno sir:	tona	4.840	5.265	6.115
11.	Mlijeko u prahu	tona	403	434	361
12.	Mliječni namazi	tona	-	654	977
13.	Maslac	tona	-	440	654
14.	Preradeno mlijeko	000 liter	178.710	199.198	237.222

## 5. INDIGENOUS PRODUCTS

Consumers today are aware of the importance of nutrition and its impact on health and quality of life. There is need created for a wider range of quality food products, among which cheese plays an important role. When it comes to milk, it contains more protein and fat, and is particularly significant due to the high calcium content. In addition to quantitative changes in the components of milk, cheese undergoes complex biochemical processes that occur during ripening and in which individual ingredients are significantly changed and decomposed to simpler components, allowing for easier digestion and better absorption in the human body. Thus, cheese today represents an important food in the nutrition of the people, but it is also gaining importance through mirroring a cultural and traditional image of a country. All cheeses native to an area represents a treasure for the country of their origin, highlighting its tradition and cultural heritage. They constitute an important feature of a people and a country and are an indication of the general and technical culture.

Production and consumption of cheese dates back several thousand years, making it one of the oldest foods. The greatest number of cheeses is named after its origin, but it is often the case that certain cities and regions have become known for cheeses that bear their name. In time of development of food production, traditional production of indigenous dairy products, especially cheeses, is gaining importance.

Production of indigenous dairy products in Bosnia and Herzegovina has been preserved for centuries, in spite of numerous wars, displacement and frequent migration of population to the cities. These products are characterized by great diversity.

In BH today, a range of authentic cheeses is being produced, such as: Livno cheese, Vlašić cheese, Mješinski cheese, Masni cheese, Vareni cheese, Kalenderovački cheese, Posni cheese or Torotan, Fresh pickled cheese, Dried pickled cheese, Hard goat cheese in oil, White goat cheese, Zajednica, Urda or Hurda, Zarice, etc.

No.	Type of Product	Measurement unit	2006	2007	2008
1.	Sweet pasteurized milk	000 liter	6.554	5.900	4.454
2.	UHT sterile milk	000 liter	91.088	100.027	126.979
3.	Yogurt and other fermented products	000 liter	28.984	32.546	37.093
4.	Cream and sour cream	000 liter	10.715	12.151	15.486
5.	Cheese				
6. •	Hard and semi-hard	tons	1.990	1.965	2.596
7. •	Fresh	tons	2.145	2.902	2.435
8. •	Slice, Feta, etc.	tons	473	212	752
9. •	Other	tons	232	186	332
10. •	Cheese in total	tons	4.840	5.265	6.115
11.	Powder milk	tons	403	434	361
12.	Dairy spreads	tons	-	654	977
13.	Butter	tons	-	440	654
14.	Processed milk	000 liter	178.710	199.198	237.222



## Kefir

Kefir spada u grupu tečnih kiselo-mlijječnih pjenušavih proizvoda pripremljenih posebnim tehnološkim postupkom, uz dodatak mlječno-kiselinskih kefirnih kultura. Specifične je aromе, blago pjenušav od mjehurićа izdvojenog ugljen-dioksida, koji mu daje osvježavajućа svojstva.

Kefir je mlijecni napitak duge tradicije, porijeklom s Kavkaza, gdje se povezuje sa zdravim načinom prehrane i predstavlja simbol dugovječnog života. Bogat je B1, B2, E i D vitaminima.



## Kefir

Kefir belongs to the group of liquid sour-milk foamy products, prepared in a special technological process, with the addition of lactic acid kefir cultures. Its aroma is specific and is slightly foamy due to bubbles from separated carbon dioxide, giving refreshing properties to kefir.

Kefir is a dairy beverage with a long tradition, originating from the Caucasus, where it is associated with a healthy diet and symbolizes longevity. It is rich in B1, B2, D and E vitamins.



## Vlašićki / Travnički sir

Bitan utjecaj u razvoju stočarstva BiH, a time i u preradi mlijeka, kroz historiju imali su narodi koji su živjeli na ovim prostorima, u prvom redu Iliri, Sloveni i Vlasi. Vlašićki sir, po kojem je planina Vlašić nadaleko poznata, spada među najbolje bijele sireve u salamuri/sirutki. Pretpostavka je da su tehniku spravljanja sira u salamuri u ove krajeva donijeli stočari nomadi s Istoča koji su se nazivali Vlasima. Otud je i planina Vlašić dobila ime. Ovu tradiciju kasnije su preuzeli stočari s okolnih planina, pa se danas Vlašićki sir proizvodi širom BiH i šire regije. Sir se izvorno proizvodi od nepasteriziranog, svježeg ovčjeg mlijeka, odmah poslije muže. Radi se na planini u sirarskim kolibama (katunima) i obično se na planini čuva 2-3 mjeseca da zrije. Vlašićki sir spada u grupu bijelih mehkikh sireva koji zriju u salamuri. Autohtono se proizvodi od ovčjeg mlijeka. Kriške sira moraju biti lijepog oblika, očuvane površine, bez tragova ispiranja, odnosno rezanja, težine od 0,5 do 0,75 kilograma. Boja sira je bijela, karakteristična za sir od ovčjeg mlijeka. Konzistencija mora biti čvrsta, ali ne suviše tvrda. Na presjeku je sirno tijesto zbijeno s malim brojem šupljina nepravilnog oblika. Okus je mliječno-kiseo, tipičan za sireve od ovčjeg mlijeka. Miris je, također, tipičan za proizvode od ovčjeg mlijeka. Vlašićki sir se proizvodi u domaćinstvima kao i u industriji.



## Vlašić / Travnik Cheese

An important influence in the development of animal husbandry in BH, and therefore in the processing of milk, came throughout the history from the peoples who had lived in this area, primarily from the Illyrians, Slavs and Vlachs. Vlašić cheese, after which Vlašić Mt. is widely known, is one of the best among white cheeses in souse / whey. It is assumed that the technique of making cheese in souse was introduced in this country by nomadic herders from the East who called themselves Vlachs, and hence, the name of Vlašić Mt. This tradition was later adopted by farmers from the surrounding mountains, so Vlašić cheese is nowadays produced throughout the country and the wider region. This cheese is originally produced from unpasteurized, fresh sheep milk immediately after milking. It is produced on the mountain in cheese huts (katuns) and is usually kept for 2 to 3 months on the mountain in order to mature. Vlašić cheese belongs to a group of white soft cheeses ripened in souse. Indigenously, it is made from sheep milk. Slices of cheese need to be shapely, with a well-preserved surface, and no traces of rinsing, or cutting, weighing 0.5 to 0.75 kilograms. The color of the cheese is white, characteristic of the cheese from sheep milk. Consistency must be firm but not too hard. At the section, the cheese paste is packed, with a small number of irregularly shaped cavities. The flavor is lactic-acidy, typical of cheese from sheep milk. The fragrance is also typical for products made from sheep milk. Vlašić cheese is produced in the households as well as in the industry.



## Livanjski sir

Livanjski sir se počeo proizvoditi u 19. vijeku u okolini Livna po uzoru na tehnologiju proizvodnje francuskog sira Grojera na porodičnim gazzinstvima. Zrenje sira prosječno traje 60–65 dana u kontroliranim uvjetima. Miris sira je izrazit i svojstven kraškim srevima. Okus je pun i ugordan, a kod starijih sireva pomalo pikantan. Mjesto nastanka Livanjskog sira je područje jugozapadne Bosne i Hercegovine, odnosno široko područje Livanjskog polja, odakle se njegova proizvodnja proširila i na područja Glamoča i Tomislavgrada. Prvobitni se Livanjski sir proizvodio od ovčjeg mlijeka po recepturi švicarskog sira Gruyera, samo u manjim kolutovima. Zbog sve većih zahtjeva tržišta za ovim sirom, postepeno se počeo proizvoditi i od kravljeg mlijeka. Livanjski sir spada u grupu tvrdih sireva. Tradicionalno se proizvodi od mješavine ovčjeg i kravljeg mlijeka u različitim omjerima, ali se kao najbolji omjer ovčjeg i kravljeg mlijeka preporučuje 80:20. Livanjski sir spada u grupu tvrdih sireva. Cilindričnog je oblika, težine od 2 do 2,5 kilograma. Kora ne smije imati tragove krpe, mora biti ravna, dobro njegovana i slarnatožute boje. Na presjeku sir mora imati ne preveliki broj okruglih, pravilno raspoređenih rupica srednje veličine. Sirno tijesto je žučkaste boje. Konzistencija mora biti čvrsta, ali ne suviše tvrda. Okus je umjeren slan, pikantan, tipičan za sreve od ovčjeg mlijeka.



## Livno Cheese

The production of Livno cheese started in the 19th century around Livno, modeled after the French Gruyere cheese production technology on family farms. Ripening takes on average of 60 to 65 days in controlled conditions. The smell of cheese is a distinct and typical for kras cheeses. The taste is full and pleasing, and somewhat spicy in older cheeses. Place of origin of Livno cheese is an area of southwestern Bosnia and Herzegovina, that is, the wider area of Livno Polje, from where its production spread to areas of Glamoč and Tomislavgrad. Originally, Livno cheese was produced from sheep milk per recipe of Swiss Gruyere cheese, but in smaller rings. Due to increasing market demand for this cheese, it gradually began to be produced from cow milk as well. Livno cheese belongs to the group of hard cheeses. It is traditionally produced from a mixture of sheep and cow milk in different proportions, but the best recommended ratio of sheep and cow milk is 80:20. Livno cheese belongs to the group of hard cheeses. It is cylindrical in shape, weighing from 2 to 2.5 kilograms. The crust should not have traces of cloth, it must be flat, well-groomed and straw color. At the section, the cheese must have a small number of round, evenly arranged medium-sized holes. Cheese paste is yellowish. Consistency must be firm but not too hard. The flavor is moderately salty and spicy, typical for all cheeses made from sheep milk.



## Sir iz mijeha

Proizvodnja sira iz mijeha karakteristična je za čitavo područje Hercegovine. Uz male razlike, po istoj se tehnologiji proizvode sirevi od kravljeg, ovčjeg i kozjeg mlijeka ili njihove mješavine. Koristi se i punomasno i obrano mlijeko. Zrenje se obavlja u ovčijim ili kozijim mješinama. Nema tačnih podataka kada se sir počeo proizvoditi i spremati u mješine.

Sir iz mijeha spada u grupu polutvrđih i tvrdih sireva. Čuva se u mješinama. Sirno tijesto je bijele do žućkaste boje. Konzistencija mora biti čvrsta, ali ne suviše tvrda. Kada se izvadi iz mješine, sir je suh i u grudicama. Okus je umjereno slan, pikantan, tipičan za sireve od ovčjeg, kravljeg ili kozjeg mlijeka. Miris je, također, tipičan, zavisno od vrste mlijeka od koje je sir proizведен. Pored toga, u toku zrenja u mješini sir poprimi karakterističan okus i miris, koji neki potrošači izuzetno cijene.

Nema industrijske prerade sira iz mijeha. Njegova proizvodnja se obavlja u domaćinstvima.



## Cheese from Bellows (Cheese Presses)

The manufacture of cheese from bellows is characteristic for the entire region of Herzegovina. With minor differences, the same technology is used to produce cheese from cow, sheep and goat milk, or their mixtures. Full-fat and skim milk is also used. Maturation takes place in sheep or goat bellows. There is no accurate data as to when this cheese started to be produced and stored in the bellows.

Cheese from bellows belongs to a group of semi-hard and hard cheeses. It is preserved in bellows. Cheese paste is white to yellowish color. Consistency must be firm but not too hard. When removed from the bellows, the cheese is dry and in clumps. The flavor is moderately salty and spicy, typical for cheeses from sheep, cow or goat milk. The fragrance is also typical, depending on the type of milk that the cheese produced from. In addition, during ripening in the bellows, the cheese receives a distinctive taste and odor that are very much appreciated by some consumers.

No industrial processing of cheese from bellows exists. It is produced in households.



## Masni sir / Sirac / Posni sir

### **Masni sir**

Proizvodi se na području istočne Bosne oko Čajniča, Tjentišta, Sokoca i nekim drugim krajevima. Proizvodnja mu je uglavnom ograničena na zimski period i na periode kada se ne pravi kajmak. Zrenje je u salamuri, a spada u kvalitetne proizvode, iako nema veću tržišnu vrijednost.

### **Sirac**

Proizvodi se na području Bosanske krajine, osobito u planinskim područjima. Proizvodi se od svježeg miješanog ovčjeg i kravlje mlijeka. Četvrtastog je oblika, čvrstog zbijenog tijesta, s malo rupica.

### **Posni sir**

Proizvodi se na širem području Bosne i Hercegovine i različito ga nazivaju: Torotan, Vareni sir, Tarenik, Tučenik, Mješinski, Diga, Prljo i drugi lokalni nazivi. Proizvodi se od obranog mlijeka poslije skidanja kajmaka. U nekim domaćinstvima nabija se u mješine i zrije u njima, a u nekima zrije u salamuri. Izgled sira je mrvičast, grudast, bijelo-žučkaste boje i specifičnog okusa. Sadrži značajnu količinu proteina što predstavlja njegovu glavnu vrijednost.



## Fat Cheese / Sirac / Posni Cheese

### **Fat cheese**

It is produced in eastern Bosnia, around Čajnič, Tjentište, Sokolac and some other regions. Its production is mainly limited to the winter period and the periods when cream is not being made. It is ripening in a souse and belongs in the category of quality products, although it does not have a higher market value.

### **Sirac**

It is produced in the area of Bosanska Krajina, especially in mountainous areas. It is made from fresh mix of sheep and cow milk. It is rectangular in shape, with compacted solid paste and a small number of holes.

### **Posni cheese**

It is produced in a wider area of Bosnia and Herzegovina and it has a number of names: Torotan, Vareni cheese, Tarenik, Tučenik, Mješinski, Diga, Prljo and other local names. It is made from skim milk after removing the cream. In some households, it is beaten up in the bellows where it ripens, and in some ripens in a souse. The appearance of the cheese is crumbly, clumpy, of white-yellowish color and specific taste. It contains a significant amount of protein which is its main value.



## Zajednica / Kalenderovački / Zarica sir

### Zajednica sir

Proizvodnja ovog sira je karakteristična za područje istočne Bosne u krajevima gdje se proizvodi kajmak. Pravi se od posnog, mladog kiselog sira i kajmaka ili jomuže. Tehnologija je jednostavna. „Zajednica“ proizvedena s kajmakom je slojevita, specifičnog okusa i aroma, i dobrog je kvaliteta.

### Kalenderovački sir

Proizvodi se u sjevernoj Bosni na obroncima Motajice i u nekim krajevima oko Majevice i Šekovića. Za ovaj sir je karakteristično obaranje kazeina sirčetnom kiselinom. Po mjestu proizvodnje dobio je lokalne nazine npr. Kalenderovački sir. Proizvodi se od djelimično obranog ili punomasnog mlijeka. Mlijeko se kuha i dok je vrelo dodaje mu se kiselo mlijeko i sirčetna ili vinska kiselina. Konzumira se mlad, poslije 3-6 dana zrenja. Radi dužeg čuvanja se suši.

### Zarica sir

Proizvodi se na području istočne Bosne od sirutkinih proteina tako što se sirutka i mlaćenica od kajmaka griju do temperature ključanja. Male je mase, okruglastog ili kupastog oblika, a tijesto je veoma tvrdo kao kod sireva za ribanje.



## Zajednica / Kalenderovački / Zarica Cheese

### Zajednica Cheese

The production of this cheese is typical for the region of eastern Bosnia in areas where the cream is produced. It is made from lean, young sour cheese and cream or jomuža. The technology is simple. Zajednica cheese, being produced together with the cream, is layered, with specific flavor and aroma, and of good quality.

### Kalenderovački Cheese

It is produced in northern Bosnia, on the slopes of Motajica and in some areas around Mt. Majevica and Šekovići. Breaking casein with acetic acid is characteristic of this cheese. According to production sites, it has been assigned local names such as, for example, Kalenderovački cheese. It is made from partially skimmed or whole milk. Milk is boiled and while it is hot, sour milk and acetic acid or tartaric acid are added to it. It is consumed young, after 3 to 6 days of ripening. It is dried in order to be preserved longer.

### Zarica Cheese

It is produced in the area of eastern Bosnia from whey protein, by having the whey and buttermilk from cream heated to a boiling temperature. It is small in mass, rounded or conical in shape, and the dough is very hard, similar to cheeses for grating.



## Urda

Urda je sir koji se proizvodi od sirutke. Bogat je proteinima i albuminskim kiselinama koje blagotvorno utječu na stomačnu floru. Dokazano je da pospešuje regeneraciju jetre. Sir sadrži veoma mali procent masti i nema soli. Spada u dijetetsku grupu proizvoda. Proizvodi se u svim planinskim krajevima pod raznim nazivima: Skuta, Furda, Hurd, Bjelava itd.



## Urda Cheese

Urda cheese is produced from whey. It is rich in protein and albumin acids which have beneficial effects on the stomach flora. It has been proven that it enhances liver regeneration. This cheese contains a very small percentage of fat and no salt. It belongs to a group of dietary products. It is produced in all mountainous regions, under various names: Skuta, Furda, Hurd, Bjelava, etc.



## Kajmak - Skorup

To je specifičan proizvod, karakterističan po visokom sadržaju masti, prisutnim proteinima i procesu zrenja. U klasifikaciji nalazi se između sira i maslaca, a najbliže je grupi proizvoda čija je osnova mlijecna mast. To je visokokalorična hrana koja se može čuvati u relativno dužem vremenskom periodu. U Bosni i Hercegovini se proizvodi na područjima Romanije, Hercegovine i zapadne Bosne.



## Kajmak - Skorup (Curd)

It is a specific product, characterized by high contents of fats, proteins and the process of maturation. In the classification, it is located between the cheese and butter, and is closest to the group of products which is based on milk fat. It is a high-calorie food that can be stored for a relatively long period of time. In Bosnia and Herzegovina, it is produced in Romanija, Herzegovina and western Bosnia areas.



## Sirevi od kozijeg mlijeka

Proizvodnja dva tipa autohtonih sireva od kozijeg mlijeka uglavnom je vezana za područje Hercegovine:

### Tvrdi koziji sir

Upotrebljava se relativno mlad, a za duže čuvanje se stavlja u ulje. Masa ovih sireva je mala, na presjeku su zatvoreni, bijele je do bijelo-žute boje. Okus mladog sira je blag, a starijih sireva, iz ulja, nešto je oštřji.

### Bijeli koziji sir

Proizvodi se u salamuri po tehnologiji Travničkog sira. Prave ga i u nekim selima u okolini Vlašića. Sir je specifičnog okusa i mirisa. Kriške su manje i mekše negoli sira od ovčjeg mlijeka.



## Cheeses made from goat milk

The production of two types of authentic cheeses made from goat milk is mainly related to the region of Herzegovina:

### Hard Goat Cheese

It is used as relatively young, and for longer storage periods it is placed into oil. The mass of these cheeses is small, they are closed at the section, and of white to white-yellow color. The taste of fresh cheese is mild, and for older cheeses, preserved in oil, it is slightly sharper.

### White Goat Cheese

It is produced in a souse by Travnik cheese production technology. It is also made in some villages in the vicinity of Vlašić. This cheese has a specific taste and smell. The slices are smaller and softer than those of the cheese made from sheep milk.

## LIDERI INDUSTRije U BIH / INDUSTRY LEADERS IN BH

### Mljekara Livno d.o.o

Splitska 3  
80 101 Livno  
**Tel/Fax:** +387 34 201295

[mljekara@livno.biz](mailto:mljekara@livno.biz)

[www.mljekara.livno.biz](http://www.mljekara.livno.biz)

**Proizvodi:** livanjski sir, trapist sir, edamec sir, feta sir.  
**Products:** Livno cheese, trappist cheese, Edam cheese, feta cheese.

### ZIM-mljekara d.d.

Kanal 32  
72 000 Zenica  
**Tel:** +387 32 457393  
**Fax:** +387 32 457358

[zimze@bih.net.ba](mailto:zimze@bih.net.ba), [www.zim.ba](http://www.zim.ba)

**Proizvodi:** mljeko, pavlaka, mileram, mlječni namazi.  
**Products:** milk, sour cream, double cream, dairy spreads.

### PPM d.d.

Mitra Trifunovića Uče 125  
75000 Tuzla  
**Tel:** +387 35 398088  
**Fax:** +387 35 398085

[ppm-tz@bih.net.ba](mailto:ppm-tz@bih.net.ba), [www.tuzlanskamljekara.ba](http://www.tuzlanskamljekara.ba)

**Proizvodi:** mljeko, fermentirani proizvodi, sir, mileram, mlječni namazi, kajmak, malsac.  
**Products:** milk, fermented milk products, cheese, double cream, dairy spreads, curd, butter.

### Mljekara DTD d.o.o.

Šnjegotina  
Gornja Šnjegotina bb  
74279 Teslić

**Tel:** +387 53 453002

**Fax:** +387 53 453012

[dtd@teol.net](mailto:dtd@teol.net), [www.dtdmljekara.com](http://www.dtdmljekara.com)

**Proizvodi:** trapist sir, edamer sir, fermentirani proizvodi, kajmak, mljeko u prahu, malsac.  
**Products:** trappist cheese, Edam cheese, fermented milk products, curd, milk powder, butter.

### Mljekara Pađeni d.o.o.

Bileća  
Plana bb

**Tel:** +387 59 482150

**Fax:** +387 59 380051

[mljekara@padjeni.com](mailto:mljekara@padjeni.com), [www.padjeni.com](http://www.padjeni.com)

**Proizvodi:** mljeko, fermentirani proizvodi, sir.  
**Products:** milk, fermented milk products, cheese.

### Natura Vita d.o.o.

Blatnica bb  
74270 Teslić

**Tel:** +387 53 427150

**Fax:** +387 53 427151

[info@naturavita.info](mailto:info@naturavita.info), [www.naturavita.info](http://www.naturavita.info)

**Proizvodi:** mljeko, fermentirani proizvodi, pavlaka, mileram, svježi sir.

**Products:** milk, fermented milk products, sour cream, double cream, cottage cheese.

### Milkos d.o.o.

Mostarsko raskršće bb  
71 000 Sarajevo  
**Tel:** +387 33 763775  
**Fax:** +387 33 763777

[info@milkos.ba](mailto:info@milkos.ba), [info@teloptic.ba](mailto:info@teloptic.ba), [www.milkos.ba](http://www.milkos.ba)

**Proizvodi:** mljeko, fermentirani proizvodi, pavlaka, mileram, feta sir.

**Products:** milk, fermented milk products, sour cream, double cream, feta cheese.

### Poljorad d.o.o.

Bosanska bb  
72283 Turbe

**Tel:** +387 32 457393

**Fax:** +387 32 457358

[poljorad@bih.net.ba](mailto:poljorad@bih.net.ba)

**Proizvodi:** mljeko, travnički sir.  
**Products:** milk, Travnik cheese.

### Mlijekoprodukt d.o.o.

Vrioci bb  
79240 Kozarska Dubica

**Tel:** +387 52 448244

**Fax:** +387 52 448242

[info@mlijekoprodukt.com](mailto:info@mlijekoprodukt.com), [www.mlijekoprodukt.com](http://www.mlijekoprodukt.com)

**Proizvodi:** mljeko, fermentirani proizvodi, sir.

**Products:** milk, fermented milk products, cheese.

### MEGGLE Mljekara d.o.o.

Grabeška 34  
77 000 Bihać  
**Tel:** +387 37 319102  
**Fax:** +387 37 319115

[info@meggle.com.ba](mailto:info@meggle.com.ba)

**Proizvodi:** mljeko, fermentirani proizvodi, sir, pavlaka, vrhnje za kuhanje, maslac.

**Products:** milk, fermented milk products, cheese, sour cream, cooking cream, butter.

### Inmer d.o.o.

Željeznička bb  
76250 Gradačac

**Tel:** +387 35 822055

**Fax:** +387 35 821171

[inmer@dukat.ba](mailto:inmer@dukat.ba), [www.inmer.ba](http://www.inmer.ba)

**Proizvodi:** mljeko, fermentirani proizvodi, sir, mileram.

**Products:** milk, fermented milk products, cheese, double cream.

### Mljekarska industrija A.D.

Mladena Stojanovića 28  
78 000 Banja Luka

**Tel:** +387 51 308765

**Fax:** +387 51 308752

[nebojsa.ristic@danube-foods.com](mailto:nebojsa.ristic@danube-foods.com)

**Proizvodi:** mljeko, fermentirani proizvodi, sir.

**Products:** milk, fermented milk products, cheese.

**BHEPA – Agencija za promociju izvoza Bosne i Hercegovine** djeluje u okviru Vanjskotrgovinske/Spoljnotrgovinske komore Bosne i Hercegovine (V/STKBiH), a rukovodi se **VIZIJOM** da postane uspješna profesionalna agencija čije djelovanje doprinosi stalnom povećanju broja izvozno sposobnih bosanskohercegovačkih kompanija i njihovog izvoza na međunarodno tržište.

**MISIJA** BHEPA-e je, stoga, pružanje podrške BiH izvoznicima kako bi održali i povećali svoj izvoz, kao i davanje doprinosa u kreiranju povoljnijeg ambijenta za međunarodnu trgovinu u BiH.

Primarni klijenti BHEPA-e su bosanskohercegovačke kompanije koje nastoje da započnu ili povećaju izvoz svojih proizvoda/usluga.

Domaćim kompanijama BHEPA nudi više **USLUGA**, a to su:

#### INFORMACIJE

- regulativa ciljnih tržišta,
- sajmovi u inostranstvu,
- standardi i zahtjevi za pojedine proizvode,
- struktura konkurenata, itd.

#### SAVJETI

- poslovne mogućnosti na inostranim tržištima (liste uvoznika i sl.),
- kanali distribucije i potencijalni distributeri.

#### POSLOVNI KLUBOVI

- povezivanje izvoznika iz BiH zainteresiranih za pojedina tržišta,
- planiranje programa razvoja tržišta za određeni sektor privrede na ciljnom tržištu,
- adresiranje i rješavanje ključnih pitanja kroz instituciju Izvoznog vijeća BiH.

#### PROMOCIJA

- kolektivna učešća i posjete trgovinskim sajmovima u inostranstvu,
- izvozne misije na ciljna tržišta,
- prijem delegacija iz inostranstva i povezivanje sa stranim partnerima,
- promotivni materijali i web-stranica za strane partnerne,
- baza podataka o izvoznicima iz BiH.

#### EDUKACIJA

- obuke s ciljem razvoja izvoznih strategija, poboljšanja proizvoda/usluga potencijalno pogodnih za izvoz i njihovog prilagodavanja zahtjevima stranog tržišta i kupaca, i sl.,
- praktični vodići za izvoznike (o planiranju izvoznog posla, izvorima finansiranja izvoza, itd.).

BHEPA isto tako pomaže kupcima iz inostranstva i poduzetnicima da:

- nađu informacije o Bosni i Hercegovini,
- nađu ponudu proizvoda,
- nađu najbolje dobavljače,
- identifikuju proizvodne kapacitete,
- susretu se sa potencijalnim partnerima kroz ličnu posjetu kompaniji ili kroz poslovne susrete.

**BHEPA – Export Promotion Agency of Bosnia and Herzegovina** operates within the Foreign Trade Chamber of Bosnia and Herzegovina (FTCBH) and is governed by the **VISION** to become a successful professional agency whose operations contribute to the continuous increase of a number of export companies and their exports to international markets.

The BHEPA's **MISSION** is, therefore, to provide support to BH exporting companies in order to sustain and increase their exports and to contribute to creating an environment that is more conducive to international trade in Bosnia and Herzegovina.

Primary clients of BHEPA are BH companies attempting to begin exporting or increase their exports of products or services.

BHEPA provides a range of **SERVICES** to domestic companies, as follows:

#### INFORMATION

- regulatory framework in target markets;
- foreign fairs;
- standards and requirements for specific products;
- structure of competitors, etc.

#### ADVICE

- business opportunities in foreign markets (lists of importers or similar);
- distribution channels and potential distributors.

#### BUSINESS CLUBS

- linking BH exporters interested in specific markets;
- planning of market development program for specific sectors in target markets;
- addressing and resolving key questions through the Export Council of Bosnia and Herzegovina.

#### PROMOTION

- collective participation in and visits to trade fairs abroad;
- export missions to target markets;
- reception of foreign delegations and linking with foreign partners;
- promotional publications and web-sites for foreign partners;
- Bosnia and Herzegovina Export Directory (data-base of BH exporters).

#### EDUCATION

- trainings aimed at development of export strategies, improvement of potentially exportable goods/services and adapting them to market and client requirements, etc.;
- practical guides for exporters (planning export activity, finding sources of finance, etc.).

In addition, BHEPA helps foreign buyers and entrepreneurs to:

- find information about Bosnia and Herzegovina;
- discover the offered products;
- locate the best suppliers;
- identify production capacities;
- meet potential partners through company visits or B2B events.



VANJSKOTRGOVINSKA KOMORA BOSNE I HERCEGOVINE  
СЛОВНОТРОГВИНСКА КОМОРА БОСНЕ И ХЕРЦЕГОВИНЕ  
FOREIGN TRADE CHAMBER OF BOSNIA AND HERZEGOVINA



Bosnia and  
Herzegovina  
Export  
Promotion  
Agency



Kingdom of  
The Netherlands