

## CURRENT ISSUES AND PRINCIPLES OF COMMON CARP (*CYPRINUS CARPIO*) ORGANIC POND FARMING IN EUROPE. AN OVERVIEW

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### PREGLED TRENUTNIH IZAZOVA I PRINCIPA ORGANSKOG UZGOJA ŠARANA (*CYPRINUS CARPIO*) U JEZERIMA U EVROPI

#### Apstrakt

Šaran (*Cyprinus carpio*) je jedna od najznačajnijih vrsta ribe u akvakulturi u slatkovodnim jezerima. Akvakultura u slatkovodnim jezerima se često karakteriše kao sistem sa malim novčanim i ulaganjima radne snage, i najčešće služi lokalnom tržištu. Šaran je nedavno klasifikovan: kada je reč o svetkoj proizvodnji zauzima treće mesto, a kada je reč o vrednosti, sedmo (Tabela 1). U 2013. godini, ukupna EU27 proizvodnja šarana iznosila je 57,254 tone (FEAP 2014). Zemlja sa najvećom proizvodnjom šarana bila je Poljska (31% ukupne EU27 proizvodnje šarana), Češka (29%), Mađarska (17%), Nemačka (10%) i Francuska (6%).

Ipak, izveštaji o organskom gajenju šarana dolaze samo iz Mađarske (~ 700 t), Nemačke (~ 200 t) i Austrije (~ 150 t). Jezerske oblasti gde se gaji šaran na organski način zauzimaju 4700 ha u Mađarskoj i 550 ha u Austriji, što predstavlja približno 20% ukupne oblasti u kojima se gaji riba u obe zemlje (Varadi, Phuong 2007).

Šaran je idealan kandidat za organsko gajenje jer zauzima nisko mesto u lancu ishrane, hrani se prirodnom hranom, u jezerima, i ima minimalan uticaj na životnu sredinu. Iako je način na koji se šaran gaji u jezerima kvazi organski i prelaz na sertifikovano organsko gajenje nije zahtevan kao kod drugih vrsta, prisustvo šarana na organskom tržištu ribe je još uvek jako nisko. Takođe, neke druge, dodatne vrste riba koje se mogu gajiti zajedno sa šaranom pokazuju visok potencijal za organsko gajenje, zbog minimalnih potreba u smislu upravljanja jezerom i sertifikacije.

Trenutni standardi za organsko gajenje šarana ipak nisu sasvim usklađeni kada je reč o prihvatljivim načinima za reprodukciju. Takođe, postoje glavna ograničenja i problemi kao što je nedostatak organske hrane, predatori, razlikovanje od neorganskih proizvoda, nedostatak saradnje kada nastanu tehnički problem i marketing, pojava kostiju i stav potrošača da je šaran jevtina hrana.

Marža za organskog šarana može da bude dobra ukoliko je prodajna cena znatno viša od troškova proizvodnje. Potrebno je harmonizovati standarde, poboljšati preradu i marketing (kada je reč o filetima bez kostiju) i podržati bolju sardanju među organskim uzgajivačima. Budućnost je svetla, što se tiče svih gore navedenih stavki, međutim trenutna potrošnja organskog šarana opada. Potrebno je repozicionirati organskog šarana na tržištu i proizvoditi više filetirane nego cele ribe.

*Ključne reči: potrošač šarana, tržište za šarana, šaransko jezero, organska akvakultura, akvakultura u jezeru*

**Tabela 1** Svetska proizvodnja najvažnijih 10 vrsta u akvakulturi (ribe, rakovi i školjke) u 2012. godini (FAO 2014). Napomena: % - procenat ukupne svetske proizvodnje/vrednosti

Vrste	Proizvodnja		Vrednost	
	tona	%	10 <sup>3</sup> USD	%
Beli amur <i>Ctenopharyngodon idella</i>	5 028 661	7,55	6 464 586	4.69
Beli tolstolobik <i>Hypophthalmichthys molitrix</i>	4 189 578	6.29	5 540 946	4.02
<b>Šaran</b> <i>Cyprinus carpio</i>	3 791 913	5.69	5 207 971	3.78
Morska školjka <i>Ruditapes philippinarum</i>	3 785 311	5.68	3 546 979	2.58
Nilaska tilapija <i>Oreochromis niloticus</i>	3 197 330	4.80	5 260 695	3.82
Pacifički beli škamp <i>Penaeus vannamei</i>	3 178 721	4.78	13 592 534	9.87
Sivi tolstolobik <i>Hypophthalmichthys nobilis</i>	2 898 816	4.35	3 723 608	2.70
Indijski šaran <i>Catla catla</i>	2 761 022	4.14	5 488 405	3.98
Karaš <i>Carassius carassius</i>	2 451 845	3.68	2 674 406	1.94
Losos <i>Salmo salar</i>	2 066 561	3.10	10 095 957	7.33
Ukupno u svetu	66 633 253		137 731 508	

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### *Abstract*

Common carp (*Cyprinus carpio*) is one of the most important fish species in freshwater pond aquaculture which is often characterized as a low input system with low labour productivity and low capital intensity, serving mainly local markets. Recently, common carp is classified on 3rd and 7th rank regarding world production and its value, respectively (Table 1). In 2013, the total EU27 aquaculture carp production was 57,254 tonnes (FEAP 2014) being mostly produced in Poland (31 % of total EU27 carp production), Czech Republic (29 %), Hungary (17 %), Germany (10 %) and France (6 %).

Nevertheless, organic carp production is currently reported just from Hungary (~ 700 t), Germany (~ 200 t) and Austria (~ 150 t). Pond areas with organic carp production occupy 4700 ha and 550 ha in Hungary and Austria respectively, which represents approximately 20% of the total fishpond area in both countries (Varadi, Phueng 2007).

Carp represents an ideal candidate for organic status since it is low in the food chain, feeds naturally and in pond farming, it has a minimum impact on the environment. Despite the way carp are farmed in ponds is already quasi-organic and the shift to their certified organic farming is not as demanding as it is for some other species, the proportion of carp on the organic fish market is still very low. Obviously, also the other supplementary carp pond fish species prove a high potential to be considered as organic products with minimum requirements in sense of pond management and certification. Current organic standards for common carp are, however, facing some inconsistencies such as acceptable ways of reproduction, as well as the main constraints and problems such as shortage of organic feed, predation of wild animals, differentiation from non-organic product, lack of cooperation on technical issues and marketing, bones appearance and consumer perception of carp as a cheap food. The margins for organic carp can be good with sales price being significantly higher than production costs. Organic carp culture needs help to harmonise standards, to improve processing and marketing (boneless fillets) and to support greater cooperation among organic farmers. There are good long term prospects with this respect, though current consumption is on the wane. There is a need to reposition organic carp in the market and produce more fillets rather than just live and/or whole fish.

*Keywords: carp customer, carp market, carp pond, organic aquaculture, pond aquaculture*

**Table 1.** World aquaculture production of top 10 aquaculture (fish, crustacean and mollusc) species in 2012 (FAO 2014). Note: % percentage world total

Species	Production		Value	
	tonnes	%	10 <sup>3</sup> USD	%
Grass carp <i>Ctenopharyngodon idella</i>	5 028 661	7,55	6 464 586	4.69
Silver carp <i>Hypophthalmichthys molitrix</i>	4 189 578	6.29	5 540 946	4.02
<b>Common carp</b> <b><i>Cyprinus carpio</i></b>	3 791 913	5.69	5 207 971	3.78
Manila clam <i>Ruditapes philippinarum</i>	3 785 311	5.68	3 546 979	2.58
Nile tilapia <i>Oreochromis niloticus</i>	3 197 330	4.80	5 260 695	3.82
Pacific white shrimp <i>Penaeus vannamei</i>	3 178 721	4.78	13 592 534	9.87
Bighead carp <i>Hypophthalmichthys nobilis</i>	2 898 816	4.35	3 723 608	2.70
Catla <i>Catla catla</i>	2 761 022	4.14	5 488 405	3.98
Crucian carp <i>Carassius carassius</i>	2 451 845	3.68	2 674 406	1.94
Salmon <i>Salmo salar</i>	2 066 561	3.10	10 095 957	7.33
World total	66 633 253		137 731 508	

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