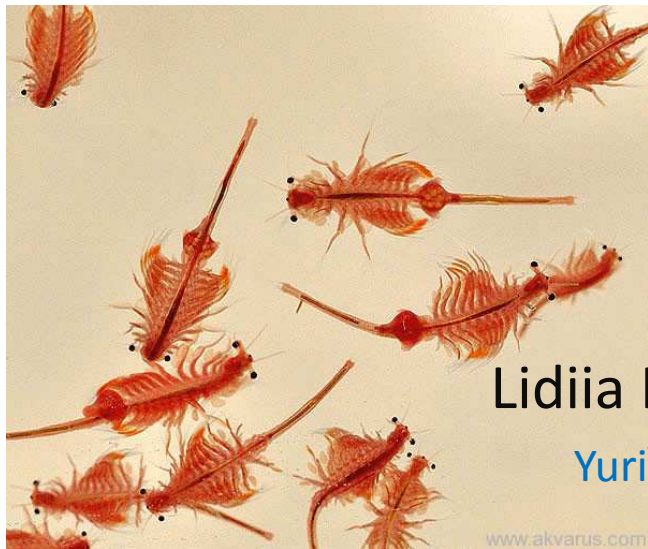




# IMPACT OF $\omega$ -3 PUFA BIOENCAPSULATION TECHNOLOGY ON THE GROWTH AND SURVIVAL RATE OF *ARTEMIA* NAUPLII

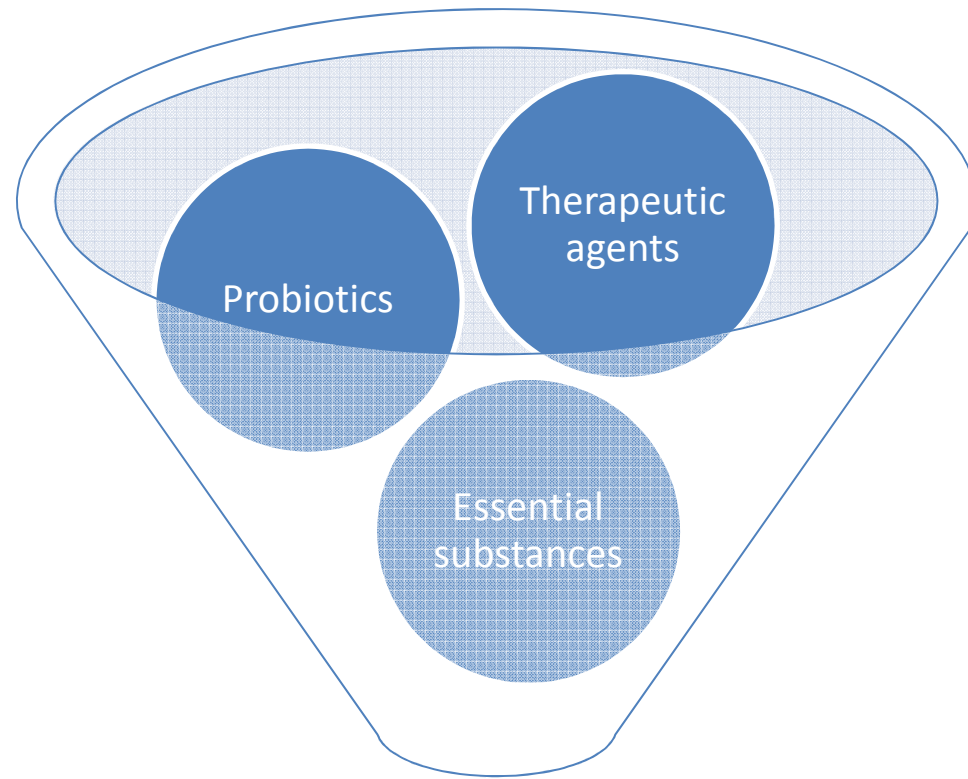


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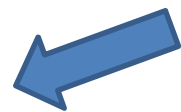
Lidiia Khuda<sup>1</sup>, Maja Prusińska<sup>2</sup>, Ryszard Kolman<sup>2</sup>

Yuriy Fedkovych Chernivtsi National University, Ukraine

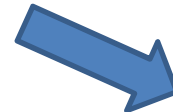
Inland Fisheries Institute in Olsztyn, Poland



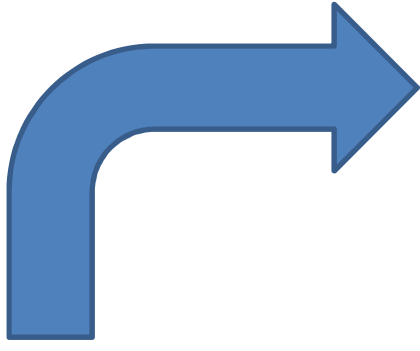
Live feed



Hydrolytic enzymes



Nutrients



# Experiment scheme

<b>Experimental groups</b>	<b>Dose of a supplement</b>
1	0.6 g/l
2	0.9 g/l
3	1.2 g/l
4	0.3+0.3 g/l
Control	without enrichment



## Fatty acid profile of *Artemia* nauplii after 24 h bioencapsulation with a supplement Easy DHA Selco

Fatty acids		C, %						
		Easy DHA Selco	after hatching	without enrichme nt	Experimental groups			
					1	2	3	4
$\Sigma$ SFA		30.266	30.266	32.635	30.500	30.670	24.701	30.011
$\Sigma$ MUFA		35.323	35.323	33.294	34.233	34.449	34.517	31.009
Linoleic	C18:2 $\omega$ -6	4.829	9.790	8.396	8.195	6.783	7.570	7.901
Linolenic	C18:3 $\omega$ -3	1.381	18.978	21.801	20.622	23.749	14.940	21.659
Arachidonic	C20:4 $\omega$ -6	1.445	1.763	1.928	1.663	1.802	1.769	1.758
Eicosapentaenoic	C20:5 $\omega$ -3	7.293	3.237	3.055	3.745	3.929	5.188	3.407
Docosahexaenoic	C22:6 $\omega$ -3	17.643	0.059	0.210	1.280	2.083	6.465	1.402
$\Sigma$ PUFA		33.588	35.979	37.316	37.266	39.744	37.343	37.772
$\Sigma$ $\omega$ -3		26.780	22.274	25.066	25.647	29.805	26.732	26.483
$\Sigma$ $\omega$ -6		6.808	13.705	12.250	11.619	9.939	10.611	11.289
$\omega$ -3 / $\omega$ -6		3.93	1.63	2.05	2.21	3.00	2.52	2.35
DHA / EPA		2.42	0.02	0.07	0.34	0.53	1.25	0.41

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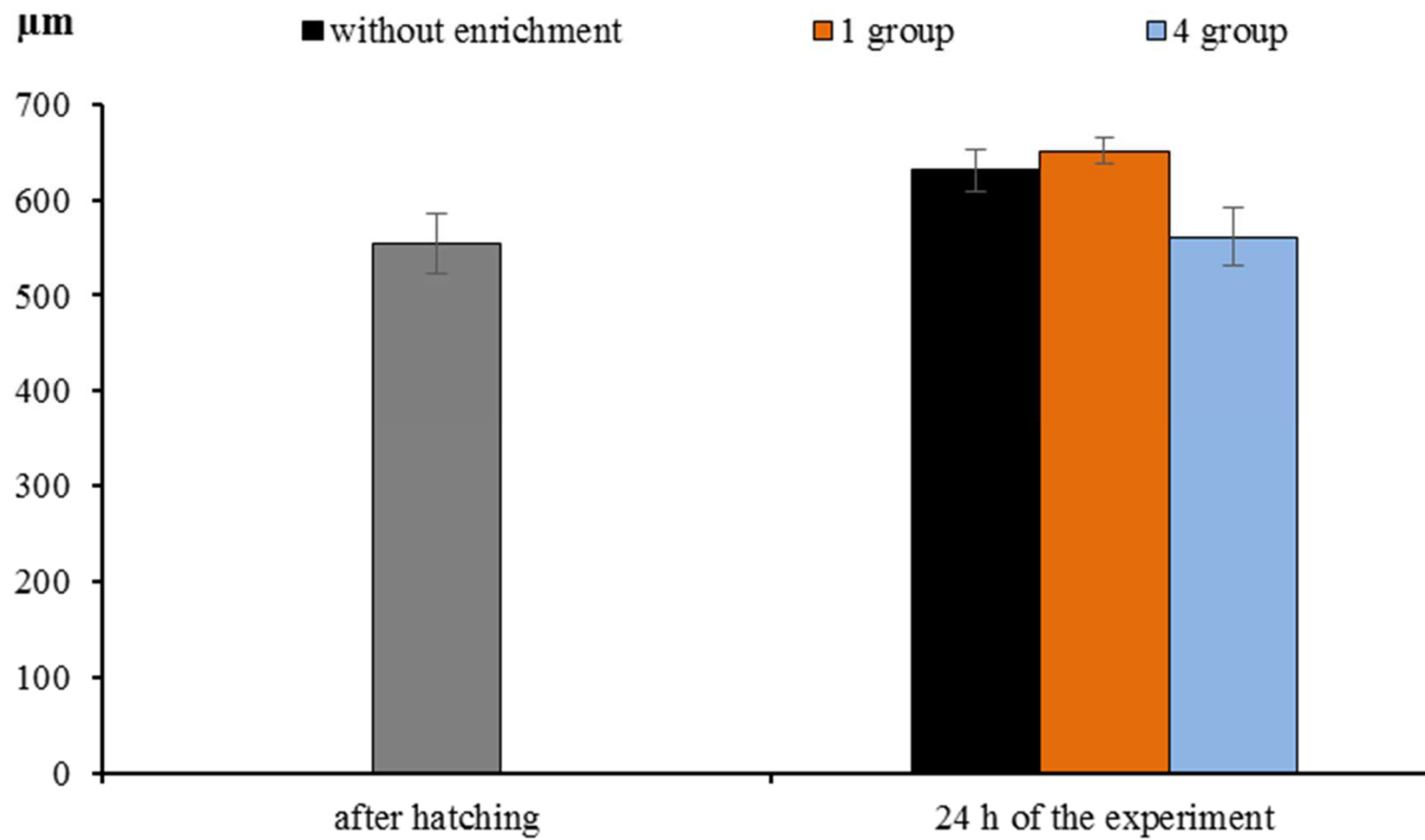
## Mortality rate (%) of *Artemia* nauplii during bioencapsulation with Easy DHA Selco

Experimental groups	Dose of a supplement	after hatching	Enrichment procedure, h			
			6	12	18	24
1	0.6 g/l	5.8±0.3	10.3±0.9 <sup>1,2</sup>	10.3±0.3 <sup>1,2</sup>	11.1±1.1 <sup>1,2</sup>	9.3±1.1 <sup>1,2</sup>
2	0.9 g/l		13.3±0.6 <sup>1,2</sup>	14.3±1.1 <sup>1,2</sup>	17.1±0.5 <sup>1</sup>	26.8±2.2 <sup>1,2</sup>
3	1.2 g/l		12.9±0.1 <sup>1,2</sup>	13.3±0.7 <sup>1,2</sup>	13.3±3.6 <sup>1</sup>	13.5±1.0 <sup>1,2</sup>
4	0.3+0.3 g/l		10.7±0.1 <sup>1,2</sup>	10.7±0.3 <sup>1,2</sup>	16.5±0.9 <sup>1</sup>	25.0±1.3 <sup>1</sup>
Control	without enrichment		6.4±0.2	8.6±0.7 <sup>1</sup>	15.9±0.5 <sup>1</sup>	22.0±1.6 <sup>1</sup>

Notes:

1 – difference in comparison with group of *Artemia* nauplii after hatching is statistically significant at  $P \leq 0.05$ ;

2 – difference in comparison with appropriate group of *Artemia* nauplii without enrichment is statistically significant at  $P \leq 0.05$ .



**Sizes ( $\mu\text{m}$ ) of *Artemia* nauplii during bioencapsulation with Easy DHA Selco in dose of 0.6 g/l (1 and 4 experimental groups)**