

## Supplementary materials

Table S1: Lice count trial 1, fish immersed in Composition 1 (tanks A and B) or unexposed control fish. Lice count conducted 189 days after probiotic exposure and 34 days post infestation with 30 copepodids per fish. A third tank containing fish administered *Aliivibrio* sp. VI1 + VI2 was lost due to a water stoppage in the research facility.

Group	Tank	N Fish Trial end	Lice count	Average count per group	Reduction
Composition 1	A	17	8.35		
Composition 1	B	23	7.43	7.83	
Control	C	9	23.56		
Control	D	15	21.93		
Control	E	10	18.6	21.38	63.38 %

Table S2: Lice count trial 1, fish cohabitant in the two tanks (G and F, respectively) with approximately 50 % exposed to Composition 1 and 50 % non-treated controls. Lice count conducted 189 days after probiotic exposure and 34 days post infestation with 30 copepodids per fish.

<b>Group</b>	<b>Tank</b>	<b>N Fish trial end</b>	<b>Average count per tank</b>	<b>Average count per group</b>	<b>Reduction</b>
Composition 1	G	9	3.86		
Composition 1	F	10	4.00	4.05	
Control	G	7	9.86		
Control	F	7	10.43	10.14	60.06 %

Table S3: Lice counts trial 2 per tank and per group.

Group	Tank	N fish trial end	Average count per tank 1	Average count per group 1	Average count per tank 2	Average count per group 2	Average count δ per tank	Average count δ per group
Control	A	28	14,53		3,79		10,39	
	B	23	14,03		5,78		8,78	
	C	29	17,53	15,38	2,97	4,06	14,66	11,32
Composition 2	D	29	17		1,76		15	
	E	22	13,7		5,09		9,45	
	F	26	15,97	15,56	3,04	3,14	13,08	12,42
Composition 1	G	29	21,57		2,34		19,45	
	H	29	21,37		5,48		16,38	
	I	29	11,13	18,02	0,55	2,79	10,45	15,24
<i>Aliivibrio</i> sp. VI1	J	19	18,7		6,86		11,62	
	K	29	24,27		4,41		19,59	
	L	29	27,5	23,49	8,79	6,69	18,97	16,8
<i>Aliivibrio</i> sp. VI2	M	30	24,27		7,27		18,4	
	N	29	21,3		3,17		17,79	
	O	29	20,57	22,51	6,1	5,53	13,93	16,98
<i>Aliivibrio</i> sp. VI4	P	23	17,2		1,91		15,22	
	Q	29	19,97		4,38		15,52	
	R	29	24,7	20,61	0,9	2,43	23,76	18,18

Table S4: Lice count trial 3 per tank and per group. Lice count conducted day 32 post lice exposure and 123 days post probiotic application.

Group	Tank	N fish trial end	Lice	Lice	Reduction
			count per tank	count per group	
Composition 3 Bath	A	30	9,17		
	B	29	7,14		
	C	31	4,10	6,77	65 %
Composition 3 Spray	D	30	3,57		
	E	9	17,22		
	F	18	11,33	8,18	57,8 %
Control	G	30	19,10		
	H	30	20,23		
	I	29	15,31		
	J	27	23,15	19,39	N/A