

Table 6 Biochemical tests for identification of bacterial isolates in the gut of *H. bidorsalis* 28 days after feeding on Aqualis commercial diets supplemented with E-probiotics 111

Treatment	Repli cates	Gram stain	Spor e	Cata lase	coa gul ase	Lact ase	Glu cos e	sucr ose	Cit rat e	moti lity	ind ole	ure ase	Mr	Vp	H ₂ S	Gas	Star ch	Bacterial isolate
I(Control)	1	+ve rod	+	+	-	-	+	+	-	+	-	-	+	-	-	-	-	<i>Bacillus firmus</i>
	2	+ve rod	-	+	-	-	-	+	+	-	-	-	-	-	+	-	-	<i>Micrococcus kristanae</i>
	3	+ve rod	-	+	-	-	+	-	-	+	-	-	+	-	-	-	-	<i>Kurthia spp</i>
	3	+ve rod	+	+	-	-	+	+	-	+	-	+	+	-	-	-	+	<i>Bacillus laterosporus</i>
II(1g probiotics/kg of feed)	1	+ve rod	+	+	-	+	+	+	+	+	-	-	-	+	-	-	+	<i>Bacillus subtilis</i>
	1	+ve rod	+	+	-	-	+	+	-	+	-	-	+	-	-	-	-	<i>Bacillus firmus</i>
	2	+ve rod	-	+	-	-	+	-	-	-	-	+	-	+	-	-	-	<i>Listeria monocytogenes</i>
	3	+ve rod	+	+	-	+	+	+	+	+	-	-	-	+	-	-	+	<i>Bacillus subtilis</i>
	3	+ve rod	-	+	-	-	-	+	+	-	-	-	-	-	+	-	-	<i>Micrococcus kristanae</i>
III(2g probiotics/kg of feed)	1	+ve rod	-	+	-	-	+	-	-	-	-	+	-	+	-	-	-	<i>Listeria monocytogenes</i>
	1	+ve rod	-	+	-	-	+	-	-	+	-	-	+	-	-	-	-	<i>Kurthia spp</i>
	2	+ve rod	+	+	-	+	+	+	+	+	-	-	-	+	-	-	+	<i>Bacillus subtilis</i>

IV(3g probiotics/kg of feed)	3	+ve rod	+	+	-	-	+	+	-	+	-	-	+	-	-	-	-	<i>Bacillus firmus</i>
	1	+ve rod	-	+	-	-	+	-	-	-	-	+	-	+	-	-	-	<i>Listeria monocytogenes</i>
	2	+ve rod	+	+	-	-	+	+	-	+	-	-	-	+	-	-	+	<i>Bacillus subtilis</i>
		+ve rod	+	+	-	-	+	+	-	+	-	+	+	-	-	-	+	<i>Bacillus lentus</i>
	3	+ve rod	+	+	-	-	+	+	-	+	-	+	+	-	-	-	+	<i>Bacillus laterosporus</i>

+ = (positive)

- = (Negative)
