

3.4 Total RBC count

The mean total RBC count in the fish fed with different immunostimulant mixed feeds under normal and *Aeromonas* infected conditions is shown in Table 22. These results demonstrated significant variation in the mean values of the total RBC count across all test groups. The average total RBC count in healthy fish treated with different immunostimulant-supplemented feeds ranged from 1.24 ± 0.08 to $2.85 \pm 2.09 \times 10^6/\text{mm}^3$. In *Aeromonas* infected fish, total RBC count with different immunostimulant mixed feeds typically varies from 1.16 ± 0.05 to $2.25 \pm 0.08 \times 10^6/\text{mm}^3$.

Table 22 Total RBC count in the fish fed with different immunostimulant mixed feeds under normal and *Aeromonas hydrophila* infected conditions

S. No.	Experimental feed	Mean Total RBC count ($\times 10^6/\text{mm}^3$)		F – value	p – value
		Healthy fish	<i>Aeromonas</i> infected fish		
1	Control feed	1.24 ± 0.08	1.16 ± 0.05	2.41	0.196 ^{NS}
2	Vitamin C mixed feed	2.59 ± 0.05	2.05 ± 0.07	121.13	0.0004***
3	Vitamin E mixed feed	2.85 ± 0.09	2.25 ± 0.08	73.64	0.001***
4	Chitin mixed feed	1.67 ± 0.06	1.26 ± 0.05	99.53	0.0006***
5	Chitosan mixed feed	1.77 ± 0.06	1.33 ± 0.04	109.49	0.0005***
6	Levamisole mixed feed	2.21 ± 0.03	1.78 ± 0.05	214.51	0.0001***

p-value* = Significant, p-value** = highly significant, p-value*** = extremely significant, p-value^{NS} = Not Significant

The mean total RBC count in healthy fish fed with immunostimulant mixed feed such as control, vitamin C, vitamin E, chitin, chitosan, and levamisole was found to be 1.24 ± 0.08 , 2.59 ± 0.05 , 2.85 ± 0.09 , 1.67 ± 0.06 , 1.77 ± 0.06 , and $2.21 \pm 0.03 \times 10^6/\text{mm}^3$ respectively. As well as, the mean total RBC count in *Aeromonas* infected fish fed with immunostimulant mixed feed such as control, vitamin C, vitamin E, chitin, chitosan, and levamisole was found to be 1.16 ± 0.05 , 2.05 ± 0.07 , 2.25 ± 0.08 , 1.26 ± 0.05 , 1.33 ± 0.04 , and $1.78 \pm 0.05 \times 10^6/\text{mm}^3$ respectively.

The total RBC count significantly varies between healthy and *Aeromonas* infected fish from all the treatment groups. The p - values for the total RBC count between healthy and *Aeromonas* infected fish in the treatment groups of control, vitamin C, vitamin E, chitin, chitosan, and levamisole were measured as 0.196, 0.0004, 0.001, 0.0006, 0.0005, and 0.0001 respectively. These results demonstrated that the tested immunostimulants significantly increased the total RBC count in both healthy and *Aeromonas* infected fish when compared to the control control-fed group.

3.5 Total WBC count

The mean total WBC count in the fish fed with different immunostimulant mixed feeds under normal and *Aeromonas* infected conditions is shown in Table 23. From these results, it was observed that the mean WBC count in all test groups varied significantly. The average total WBC count in healthy fish treated with different immunostimulant-supplemented feeds ranged from 4077 ± 0.93 to 7535 ± 1.07 cells/ mm^3 . In *Aeromonas* infected fish, the total WBC count with different immunostimulant mixed feeds typically ranges from 4342 ± 0.87 to 7757 ± 1.06 cells/ mm^3 .

Table 23 Total WBC count in the fish fed with different immunostimulant mixed feeds under normal and *Aeromonas hydrophila* infected conditions

S. No.	Experimental feed	Mean Total WBC count (cells/ mm^3)		F- value	p – value
		Healthy fish	<i>Aeromonas</i> infected fish		
1	Control feed	4077 ± 0.93	4342 ± 0.87	12.94	0.0228*
2	Vitamin C mixed feed	6855 ± 0.86	7130 ± 0.43	17.43	0.134 ^{NS}
3	Vitamin E mixed feed	7535 ± 1.07	7757 ± 1.06	6.5	0.063 ^{NS}
4	Chitin mixed feed	6613 ± 0.74	6849 ± 1.12	9.1	0.034*
5	Chitosan mixed feed	6322 ± 0.84	6435 ± 0.92	2.41	0.195 ^{NS}
6	Levamisole mixed feed	7248 ± 0.82	7373 ± 0.95	2.97	0.156 ^{NS}

p-value* = Significant, p-value** = highly significant, p-value*** = extremely significant, p-value^{NS} = Not Significant