

3.6.2 Basophils

The basophil counts in the fish fed with different immunostimulant mixed feeds under normal and *Aeromonas* infected conditions are shown in Table 25. Based on these findings, it was determined that there was no statistically significant variation in the average basophil counts across the groups being tested. The average basophil counts in healthy fish treated with different immunostimulants mixed feed ranged from 38 ± 9 to 48 ± 9 cells/mm³. In *Aeromonas* infected fish, basophil counts with different immunostimulant mixed feeds typically ranged from 34 ± 6.5 to 42.6 ± 6.02 cells/mm³.

The mean basophil counts in healthy fish fed with immunostimulant mixed feed such as control, vitamin C, vitamin E, chitin, chitosan, and levamisole was found to be 38 ± 9 , 44.3 ± 8.50 , 48 ± 9 , 38 ± 9.53 , 43.3 ± 11.06 , and 46.33 ± 8.50 cells/mm³ respectively. As well as, the mean basophil counts in *Aeromonas* infected fish fed with immunostimulant mixed feed such as control, vitamin C, vitamin E, chitin, chitosan, and levamisole was found to be 34 ± 6.5 , 39 ± 8 , 42.66 ± 6.02 , 36.33 ± 8.50 , 39 ± 8.54 , and 42.66 ± 11.5 cells/mm³ respectively.

Table 25 Basophils count in the fish fed with different immunostimulant mixed feeds under normal and *Aeromonas hydrophila* infected conditions

S. No.	Experimental feed	Basophils (cells/mm ³)		F- value	p- value
		Healthy fish	<i>Aeromonas</i> Infected fish		
1	Control feed	38.0 ± 9	34.0 ± 6.5	0.33	0.596 ^{NS}
2	Vitamin C mixed feed	44.3 ± 8.50	39.0 ± 8	0.63	0.47 ^{NS}
3	Vitamin E mixed feed	48.0 ± 9	42.66 ± 6.02	0.73	0.441 ^{NS}
4	Chitin mixed feed	38.0 ± 9.53	36.33 ± 8.50	0.05	0.834 ^{NS}
5	Chitosan mixed feed	43.3 ± 11.06	39.0 ± 8.54	0.29	0.618 ^{NS}
6	Levamisole mixed feed	46.33 ± 8.50	42.66 ± 11.5	0.2	0.677 ^{NS}

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

The number of basophils insignificantly varies between healthy and *Aeromonas* infected fish from all the treatment groups. The p - values for the basophil counts between healthy and *Aeromonas* infected fish in the treatment groups of control, vitamin C, vitamin E, chitin, chitosan, and levamisole were measured as 0.596, 0.471, 0.441, 0.834, 0.618, and 0.677 respectively. These results demonstrated that the tested immunostimulants don't exhibit a significant impact on the basophil count in both healthy and *Aeromonas* infected fish when compared to the control control-fed group.

3.6.3 Neutrophils

The Table 26 shows the mean neutrophil counts of healthy and *Aeromonas* infected *Catla catla* fish that were fed with different immunostimulant-supplemented feeds. From these results, it was shown that the average neutrophils count in all test groups varied significantly. The mean neutrophil counts in healthy fish treated with different immunostimulants mixed feed ranged from 2650 ± 0.525 to 3340 ± 0.49 cells/mm³. Whereas, in *Aeromonas* infected fish, neutrophil counts with different immunostimulant mixed feeds ranged between 5060 ± 0.89 and 7570 ± 0.62 cells/mm³.

Table 26 Neutrophil counts in the fish fed with different immunostimulant mixed feeds under normal and *Aeromonas hydrophila* infected conditions.

S. No.	Experimental feed	Neutrophils (cells/mm ³)		F- value	p- value
		Healthy fish	<i>Aeromonas</i> infected fish		
1	Control feed	2650 ± 0.525	5060 ± 0.89	8.46	0.043*
2	Vitamin C mixed feed	2806 ± 0.62	6890 ± 0.77	51.11	0.0020**
3	Vitamin E mixed feed	3340 ± 0.49	7570 ± 0.62	110.1	0.0005***
4	Chitin mixed feed	3150 ± 0.625	5640 ± 0.525	28.04	0.0061**
5	Chitosan mixed feed	2860 ± 0.576	6206 ± 0.765	36.6	0.0037**
6	Levamisole mixed feed	2910 ± 0.672	7100 ± 1.030	37.79	0.0041**

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