

Chapter Five

5.0 Discussion

5.1 The effect of feeding graded levels of H.W on the performance of six weeks old broiler chicks

The overall effect of feeding graded levels (0.0, 3,6 and 9%) Hatchery waste meal (HW) on the broiler performance was studied. The live weight gain (g/bird) and feed conversion (g feed/ g gain) of birds fed 0%, 3% HW and 6% HW was significantly ($P < 0.05$) improved compared to those birds fed 9% HWM. This improvement might be due to the optimum protein efficiency ratio, apparent protein digestibility, biological value and net protein utilization provided from 3 and 6% HWM as optimum inclusion. The present results are in the same line with the findings reported by Bashir (2002) who found that the replacement of 5% of fish meal with 5% HW significantly in body weight and feed conversion ratio.

The same author found that the amino acid balance of hatchery waste meal based broiler diets was significantly better compared to the control

diet. This may also explain that control (0.0%) HW, 3 % HWM and 6% HWM based broiler diets were significantly improved the above mentioned. Performance parameters compared to 9% HW based diet.

Similar results were reported by (Medipour, et al.,2009 and Aparana and Patterson,1997).

The present results are agreed with the findings of Saima (2001) who reported that, supplementation of broiler diet with 6% toasted hatchery waste significantly improved weight gain and feed conversion ratio compared to cooked hatchery waste meal.

Similar results were obtained by Babiker (1991) who replaced super concentrate with air dried incubator reject eggs , Ismail and Ali (2011) reported that 4.5 % hatchery waste meal based diets resulted in significantly improved feed conversion ratio compared to 3 and 6% hatchery waste based diets . They also reported that there was no significant differences observed in tibia ash and blood calcium and phosphorus between the control diet and hatchery waste supplemented broilers diets .Similar results were reported by (Sathishkumar and

prabkamn ,2008) when they fed graded levels of Japanese quail hatchery waste to Japanese quail breeders ration .

It can be seen that the significant ($P<0.05$) improved dressing percentage of carcasses of birds fed 3% and 6% of hatchery waste meal was due to the significant improvement of total live body weight and feed conversion ratio which positively reflected on improved dressing percentage and significantly ($P<0.05$) improved thigh weight .

The mean total feed intake (g/bird) for birds fed 9% HWM was significantly ($P< 0.05$) lower compared to those birds fed 3 and 6% HWM and the control diet. This result might be due to the decrease of palatability that had negative reflect on performance results. It can be concluded that the supplementation of broiler diets with 3% and 6% hatchery waste meal resulted in no significant differences in weight gain and feed conversion ratio of broiler diets.

The biological evaluation trails conducted by Saima , (2001) , Bashir, (2001) and Medipour, et al (2009) explain that toasted hatchery meal have superior apparent protein digestibility, protein efficiency,

biological value and net protein utilization which resulted in good performance results. In addition of that they justify these results by the good balance of amino acids balance in hatchery waste meal particularly toasted hatchery waste meal .

Chapter Six

6.0 Conclusion and Recommendations

6.1 Conclusion

This study has shown that HWM is a potential alternative protein source in broiler diets. The hatchery waste can be used up to 6% in broiler diets without noticeable adverse effects on the performance.

-The chemical determined composition of the HWM is 3% ash, 8.6% ether extract, 21.87% CP, 1.4% CF, 24% Ca , 1.25P and 155ME/Kcal/Kg

6.2. Recommendations

1. Further detailed evaluations are needed to establish the effect of oven drying hatchery waste on the quality of the end product.
2. Further studies for the feasibility of using HWM in broiler diets are required.

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