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EFFECTS OF FEED RESTRICTION ON *DERMANYSSUS GALLINAE* INFESTATION IN GROWING CHICKS

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Environmental factors may influence the degree of damage done to the host by poultry red mite (PRM). We investigated the effects of feed restriction in chickens on damage induced by PRM and on growth performance of the host. A total of 360 one-day-old chicks of 3 genotypes were used. Four chicks per cage were kept in two identical rooms. The birds in one room were infested with red mites. Birds were fed ad libitum in the first week. From the second week onwards half of the birds in both groups received 20% less feed as compared to ad libitum fed chicks. Lighting was provided as 16L:8D. At 12 weeks of age, 36 birds were slaughtered to measure heart, liver, spleen, gizzard weights, as well as hemoglobin and hematocrit values. Body weight of control group was higher than that of infested group (P=0.0055). On the contrary, the feed intake of infected group was higher (P=0.0008). However, an interaction between groups and genotypes was observed (P=0.0007). A slightly lower hematocrit value was observed in infested birds (P≥0.0689). Hemoglobin values were 10.2 g/dl, 9.2 g/dl in control and infested groups, respectively (P=0.0084). Heart, liver and spleen proportions to carcass weight were higher in the infested group (P≤0.0451). Feed restriction had significant negative effects on all traits (P≤0.05), except hematocrit and hemoglobin (P>0.05). No interactions between groups and feed restrictions was observed for all traits. However, hemoglobin values of ad libitum-fed control birds seem to be higher than the other subgroups (P=0.0880). In conclusion 20% feed restriction does not seem to have any influence on the negative effect of parasite infestation of the host.

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mites are clearly visible, or have an impact on production or caretakers start to complain.

Due to the significance that PRM has to the layer industry, there is a clear need to approach the farmers or establishments more personally, to be able to obtain more significant national data, comparable to other EU countries.

INSEPARABLE DUO: *DERMANYSSUS GALLINAE* AND ITS BIRDS

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This presentation aims to provide a summary of our recent research on the effects *Dermanyssus gallinae* infestation has on overall health, performance, reproduction and product quality in different poultry species. Results obtained from experimentally induced infestations indicated that a slight infestation influences blood parameters and behavior, but not the growth of the host animal, whereas, a high-infestation clearly leads to anemia, and in quails to a higher mortality. The relative difference in growth performance between infested and control birds in five chicken genotypes (1 broiler, 4 layers) was nearly identical. A poultry red mite infestation in early age leads to delayed sexual maturity in layer chickens. Significant differences were found between laying performance and egg weight in favor of control birds to infested birds, and the shell quality of infested chickens was also worse. Also, a bad quality was noted of chicks hatched from infested chicken eggs. The findings of carcass characteristics show potential damages of mite infestation on quail and broiler meat quality and quantity. As a conclusion poultry red mite has similar effects on studied birds with regard to several parameters. The selection of one or more parameters could be assisted to develop