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Effects of Cellular Insulin Receptor Stimulators with Alkaline Water on Performance, some Blood Parameters and Hatchability in Breeding Japanese Quail

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Abstract : In this study, in the breeding Japanese quails (coturnix coturnix japonica), it was aimed to study the effects of cellular insulin receptor stimulation on the performance, some blood parameters, and hatchability features. In the study, a total of 84 breeding quails were used, which are in 6 weeks age, and whose 24 are male and 60 female. In the trial, rations which contain 2900 kcal/kg metabolic energy; crude protein of 20%, and water whose pH is calibrated to 7.45 were administered as ad-libitum, to the animals, as metformin source, metformin-HCl was used and as chrome resource, Chromium Picolinate. Trial groups were formed as control group (basal ration), metformin group (basal ration, added metformin at the level of fodder of 20 mg/kg), and chromium picolinate group (basal ration, added fodder of 1500 ppb Cr. When regarded to the results of performance at the end of trial, it is seen that live weight gain, fodder consumption, egg weight, fodder evaluation coefficient, and egg production were affected at the significant level ($p < 0.05$). When the results are evaluated in terms of incubation features at the end of trial, it was identified that incubation yield and hatchability are not affected by the treatments but in the groups, in which metformin and chromium picolinate are added to ration, that fertility rose at the significant level compared to control group ($p < 0,05$). According to the results of blood parameters and hormone at the end of the trial, while the level of plasma glucose level was not affected by treatments ($p > 0.05$), with the addition of metformin and chromium picolinate to ration, plasma, total control, cholesterol, HDL, LDL, and triglyceride levels were significantly affected from insulin receptor stimulators added to ration ($p<0,05$). Hormone level of Plasma T3 and T4 were also affected at the significant level from insulin receptor stimulators added to ration ($p < 0,05$).

Keywords : cholesterol, chromium picolinate, hormone, metformin, performance, quail
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