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Cognitive performance for two strains of broiler birds in homogenous and mixed grouping system

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1 **Cognitive performance for two strains of broiler birds in homogenous and mixed grouping**
2 **system**

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17
18 **Abstract**

19 Sixty day-old chicks from the commercial broiler strain, Vencobb, and 60 day-old backyard
20 Vanaraja chickens, were selected as experimental birds for assessing learning and cognitive
21 performance. Learning and cognitive ability were assessed on the basis of maze trial
22 performance, self recognition trial (SRT), detour trial (DT), tonic immobility trial (TI), serum
23 leptin concentration and encephalization quotient (EQ). The mazes were prepared by using
24 locally available cardboard, papers and bamboo strips. Three maze trials - T Maze trial, Y Maze
25 trial and Radial Maze - were performed. Birds were trained from the second to tenth day for
26 maze tests. The maze test schedules started from 11th day and data were taken 11th to 17th day,
27 25th to 31th day and 39th to 45th day in Trial I, Trial II and Trial III schedules, respectively. The
28 response of birds to different maze tests and performance in different cognitive trials were
29 assessed on the basis of latency in time to acquire the food and complete the tasks. At the end of
30 the trials, serum leptin concentration was assayed. Encephalization Quotient (EQ) was calculated
31 by Jerison's formula and Cuvier's formula. Vencobb birds showed a better response to different
32 cognitive and learning trials.

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