Quantitative vs. qualitative dietary restriction: is there a preference among broiler breeders?

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Broilers grow extremely quickly, rendering the breeding stock incapable of maintaining healthy body weights when fed ad-libitum during rearing and breeding stages. Therefore, broiler breeders are severely feed restricted, commonly causing stereotypic behaviour indicative of chronic hunger. Alternative diets reduce stereotypic behaviour, but bird preference should be included in their evaluation. Because alternative housing systems can accommodate for increased welfare, feeding regimes that can do the same should not be overlooked. This study investigated preferences of broiler breeders given the choice between quantitatively (control) or qualitatively restrictive (CaP/SBH) diets. The CaP/SBH diet consisted of the control diet diluted with 40% soybean hulls (SBH) and 5% appetite suppressant (calcium propionate, CaP). Thirty-seven pullets were tested. To control for the effects of rearing diet, 17 were reared on the control diet and 20 were reared with CaP/SBH. Birds were trained to associate each diet with a colour (blue or red) and a location (left or right). All diet/colour/location combinations were tested. Following four days of training, each pullet was tested over four days using a Y-maze. Data were analyzed using a mixed model (SAS 9.2). Overall, no dietary preference was revealed, indicating fibre dilution may not be aversive. However, this does not support our hypothesis that opportunities to eat more would be preferred. There was an effect of rearing diet on colour choice (P = 0.0393), as control-raised birds chose blue more often and CaP/SBH-raised birds chose red more often. However, on an individual basis, 17 pullets were consistent in their choice of diet/colour/location combination over all four testing periods. Seven others were consistent on the second through fourth testing periods. This suggests that certain birds have preferences, but are quite individual. Alternatively, the training regime may not have been sufficient to cause an association between the feed and its satiating properties.