



## Expression of growth genes in response to glycerol use in Japanese quail diets

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**ABSTRACT.** Glycerol can be used as a substitute for corn for feeding poultry, but there are concerns about how it may affect growth performance and health of the birds. We evaluated the expression of mRNA of growth hormone (GH) and insulin-like growth factor I (IGF-I) in 35-day-old Japanese quails fed different glycerol levels (0, 4, and 8% dietary glycerol instead of corn). Total RNA was extracted from the breast muscle and cDNA was amplified with the use of specific primers for these genes using real-time PCR. Quails fed the diet with 8% glycerol supplementation had significantly lower GH mRNA and IGF-I mRNA expression than those fed no glycerol or 4% glycerol. No significant effect of the treatments was found on quail weight gain or feed intake. Feed conversion ratio was influenced

by dietary glycerol levels: the group fed 8% glycerol displayed the worst feed conversion ratio (2.54) compared with that of quail fed the control diet (2.35) or 4% glycerol (2.36). Considering quail performance and the expression of the genes GH and IGF-I, a level of 4% glycerol can be used in quail feeding without any harmful effects.

**Key words:** Breast muscle; GH; IGF-I