

## Value Added by Spirulina Platensis in Two Different Diets on Growth Performance, Gut Microbiota, and Meat Quality of Japanese Quails

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**Abstract :** Aim: The growth promoting the effect of the blue-green filamentous alga Spirulina platensis (SP) was observed on meat type Japanese quail with antibiotic growth promoter alternative and immune enhancing power. Materials and Methods: This study was conducted on 180 Japanese quail chicks for 4 weeks to find out the effect of diet type (vegetarian protein diet [VPD] and fish meal protein diet [FMPD])- Spirulina dose interaction (1 or 2 g/kg diet) on growth performance, gut microbiota, and sensory meat quality of growing Japanese quails (1-5 weeks old). Results: Data revealed improvement ( $p < 0.05$ ) of weight gain, feed conversion ratio, and European efficiency index due to 1, 2 g (SP)/kg VPD, and 2 g (SP)/kg FMPD, respectively. There was a significant decrease of ileum mean pH value by 1 g(SP)/kg VPD. Concerning gut microbiota, there was a trend toward an increase in Lactobacilli count in both 1; 2 g (SP)/kg VPD and 2 g (SP)/kg FMPD. It was concluded that 1 or 2 g (SP)/kg vegetarian diet may enhance parameters of performance without obvious effect on both meat quality and gut microbiota. Moreover, 1 and/or 2 g (SP) may not be invited to share fishmeal based diet for growing Japanese quails. Conclusion: Using of SP will support the profitable production of Japanese quails fed vegetable protein diet.

**Keywords :** isocaloric, isonitrogenous, meat quality, performances, quails, spirulina, spirulina

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