Potential of a Wild Medicinal Mushroom, Ganoderma Sp., as Feed Supplement in Chicken Diet: Effect on Performance and Health of Pullets

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Abstract:

Proximate and chemical composition of a wild mushroom, Ganoderma sp was evaluated. The phytochemical analysis showed it contained carbohydrates and reducing sugars, steroids, cardiac glycosides, saponins and resins. Proximate analysis revealed crude protein (13.3±0.2), crude fibre (34.7±6.4), fats (2.6%±0.3), calcium (0.4%±0.1) and phosphorus (0.3%±0.0). Acidic amino acids (glutamic and aspartic acid) (6.2 g%±1.4 and 5.6 g%±0.1) and sulphur containing amino acids (cystine and methionine) (1.5 g%±1.3 and 0.7 g%±0.1) were also detected. Of all the essential amino acids detected in the mushroom, leucine was higher (5.3 g%±0.9), followed by phenylalanine (3.7 g%±0.5), alanine (3.3 g%±0.1), isoleucine (3.1g%±0.1), valine (3.0 g%±0.2), lysine (3.0 g%±0.6) and threonine (2.0 g%±0.1). Histidine (1.7 g%±0.3) and methionine (0.7 g%±0.1) were the least. Supplemented diets showed higher leucine content followed by phenylalanine, alanine, isoleucine, valine, lysine, threonine, histidine and methionine. Pullets fed these diets showed improved performance in weight gain and health. The physical qualities of eggs laid by the birds were not affected. Although, feed intake did not show significant difference in all the groups (p>0.05) but the feed to gain ratio was better in A (3.3) and B (3.4) than C (3.5) and D (3.6). This showed supplementation with the mushroom resulted in better feed efficiency and the effect is dose dependent. It was concluded that this mushroom can be a valuable source of feed supplement to improve performance and health.

Key Word:
Mushroom, chemical and nutritional constituents, feed supplement, chickens

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