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Opinion

Nigella sativa: Prospect of Using in Poultry Industry

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Black cumin (*Nigella sativa* L.) belongs to the family *Umbelliferae*, a famous medicinal plant which abundantly found in Central Asia and Europe. Two-third of the peoples in the developing countries depends on the herbs for their primary health care as it has almost no side effect; and the tendency of using ethnomedicine increasing day by day [1]. Seeds of *N. sativa* (SNS) contain several bioactive substances like carvacrol, thymoquinone, thymol, dithymoquinone etc. and numerous compounds like alkaloids, volatile and fixed oil. Its oil used in human diet and also acts as a remedy of several diseases. SNS volatile oil contains thymoquinone which showed anti-oxidative, anti-cancer and anti-inflammatory properties [2]. SNS contains volatile oil (0.5 - 1.6%), fixed oil (35.6 - 41.6%), protein and amino acids (22.7%) [3]. In case of poultry, it was revealed that body weight and feed intake of broilers are positively affected by SNS and its oil extract [4]. SNS might be used as a feed ingredient to prepare balance rations for poultry as it enriches with essential food nutrients. SNS can be used as multipurpose growth promoter and it enhanced the productive and reproductive performance of poultry [5]. Present poultry farming becoming challenging to meet up the demand of target body weight without the use of growth promoter and hormone, in this case natural products able to meet the challenge. Numerous studies have been conducted on the effect of SNS on broiler performance and found that with 1% SNS in broiler diet improved average daily weight gain and feed conversion ratio [6]. SNS showed potential activities against bacteria which indicates that it might be a substitute for traditional antimicrobial drug. Erener., *et al*. revealed that in addition of ground SNS less than 0.25 up to 0.75% and 1 or 2% of the diet had unexpected effect on the performance on carcass quality [7]. SNS oil extract was shown to effectively inhibit *Listeria monocytogenes*. Advance studies need to focus to elucidate the molecular pharmacological mechanism of healing properties of SNS and its compounds. In advance poultry industry, bioactive compound of SNS and their molecular modifications may be playing a key role as a potential remedy for diseases.

Bibliography

1. Hossen MJ., *et al*. "Traditional medicine/plants for the treatment of reproductive disorders in Asia Nations". *The Pakistan Veterinary Journal* 36.2 (2016): 127-133.

2. Hossen MJ., *et al*. "Thymoquinone: an IRAK1 inhibitor with in vivo and in vitro anti-inflammatory activities". *Scientific Reports* 7.1 (2017): 1-12.

3. Al-Gaby A. "Amino acid composition and biological effects of supplementing broad bean and corn proteins with *Nigella sativa* (black cumin) cake protein". *Food/Nahrung* 42.05 (1998): 290-294.

4. Al-Beitawi NA., *et al*. "Replacing bacitracin methylene disalicylate by crushed Nigella sativa seeds in broiler rations and its effects on growth, blood constituents and immunity". *Livestock Science* 125.2-3 (2009): 304-307.

5. Longato E., *et al*. "Nutritional and zootechnical aspects of Nigella sativa: a review (2015).

6. Guler T., *et al*. "The effect of dietary black cumin seeds (*Nigella sativa* L.) on the performance of broilers". *Asian-Australasian Journal of Animal Sciences* 19.3 (2006): 425-430.

7. Erener G., *et al*. "Influence of black cumin seed (*Nigella sativa* L.) and seed extract on broilers performance and total coliform bacteria count". *Asian Journal of Animal and Veterinary Advances* 5.2 (2010): 128-135.

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