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Response to Comprehensive Stress of Growing Greylag Geese Offered Alternative Fiber Sources

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Abstract : Stress always exerts some extent adverse effects on the animal production, food safety and quality concerns. Stress is commonly-seen in livestock industry, but there is rare literature focusing on the effects of nutrition stress. What's more, the research always concentrates on the effect of single stress additionally, there is scarce information about the stress effect on waterfowl like goose as they are commonly thought to be tolerant to stress. To our knowledge, it is not always true. The object of this study was to evaluate the response of growing Greylag geese offered different fiber sources to the comprehensive stress, primarily involving the procedures of fasting, transport, capture, etc. The birds were randomly selected to rear with the diets differing in fiber source, being corn straw silage (CSS), steam-exploded corn straw (SECS), steam-exploded wheat straw (SEWS), and steam-exploded rice straw (SERS), respectively. Blood samples designated for the determination of stress status were collected before (pre-stress) and after (post-stress) the stressors carried out. No difference ($P>0.05$) was found on the pre-stress blood parameters of growing Greylags fed alternative fiber sources. Irrespective of the dietary differences, the comprehensive stress decreased ($P<0.01$) the concentration of SOD and increased ($P<0.01$) that of CK. Between the dietary treatments, the birds fed CSS had a higher ($P<0.05$)post-stress concentration of MDA than those offered SECS, along with a similarity to those fed the other two fiber sources. There was no difference ($P>0.05$) found on the stress response of the birds fed different fiber sources. In conclusion, SOD and CK concentration in blood may be more sensitive in indicating stress status and dietary fiber source exerted no effect on the stress response of growing Greylags. There is little chance to improve the stress status by ingesting different fiber sources.

Keywords : blood parameter, fiber source, Greylag goose, stress
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