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Impact of effective microorganisms™ (EM™) on nutrient content of feeds, feed intake, digestibility, growth and mixed internal parasitic load on local sheep at Debre Zeit, Ethiopia

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The experiment was conducted to determine different levels of EM-bokashi® and MEM solution inclusion in supplemental diets of Afar sheep on nutrient content of feeds, feed intake, digestibility, N retention, body-weight (BW) gain and mixed internal parasitic load at Debre Zeit Agricultural Research Center, Debre Zeit, Ethiopia. Twenty-five yearling male Afar sheep with a BW of 18.8 ± 1.6 kg (mean ± SD) were used in the study. The experimental design was a randomized complete block design. Five sheep were randomly assigned to each of the five dietary treatments that consisted of *ad libitum* tef straw + concentrate (300 gm/head/day) + no supplementation (T1), and supplementation of EM-bokashi® with 1% (T2), 3% (T3) and 5% (T4) on dry matter (DM) basis and 14% (T5) MEM solution.

Higher contents of CP, NDF, ADF and ADL were observed in concentrate than EM-bokashi® with relatively equal contents in DM, Ash and OM. The mixed treatment diet having EM-bokashi® resulted higher CP, NDF, ADF, ADL and ash values than EM-bokashi® alone but exhibited less value in its OM content. Treatment feed having 1% EM-bokashi® showed higher DM, OM, ash, NDF and ADF than the rest but lower in its ADL content. The CP content of a mixture having 5% EM-bokashi® was higher (196 gm/kg DM) than the rest.

Daily DM and CP intake increased ($P<0.001$) with inclusion of 14% MEM solution in the supplement diets, but it declined ($P<0.05$) at 5% of EM-bokashi® inclusion however daily LW gain was lower ($P<0.05$) in animals supplemented with the same diet compared to the other levels of poultry EM-bokashi® inclusion. Apparent digestibility coefficient of DM and CP at any percentage of EM-bokashi® and MEM solution inclusion was non significant ($P>0.05$) however significant nitrogen intake with corresponding nitrogen retention were higher ($P<0.05$) for treatment 5 with the lowest being for treatment 2.From the results of this study, it is concluded that EM™ could be included preferably in its MEM solution form than bokashi at 14% or more in the ration of sheep.

Biography

Chernet Woyimo Woju has completed his M.Sc at the age of 32 years from Addis Ababa University, Ethiopia. He is the Vice Dean for the College of Agriculture & Natural Resources, Mizan-Tepi University. He has published 1 paper and sent 3 other articles for publishing in reputed journals. He is currently working as lecturer in same University and has more than 10 years of research and teaching experiences.

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