Increasing of rumen fermentation products and digestibility of diets through urea-zeolite supplementation in-vitro

Publons ID	37401644
Wos ID	WOS:000649705500049
Doi	10.1088/1755-1315/425/1/012049
Title	Increasing of rumen fermentation products and digestibility of diets through urea-zeolite supplementation in-vitro
First Author	
Last Author	
Authors	Bata, M; Rimbawanto, EA; Rahayu, S;
Publish Date	2020
Journal Name	1ST INTERNATIONAL CONFERENCE ON AGRICULTURE AND BIOINDUSTRY 2019
Citation	
Abstract	The aim of this study was to find the optimal level of urea-zeolite supplementation in the substrate on rumen fermentation products and digestion in vitro. Testing the solubility level of urea-zeolite at a ratio of 1: 1 and 1: 2 in rumen fluid based on N-NH3 levels was carried out at the fermentation time of 0, 1, 2, 3, 4, and 5 hours. Completely randomized design was used in this research with urea-zeolite supplementation treatment (0.2, 4, 6, 8, and 10% of dry matter (DM) substrate). Substrate composed of corn sugarcane silage and concentrate with DM ratio was 70%: 30%. The variables measured were rumen fermentation products (pH, VFA, and N-NH3), DM and organic matter (OM) digestibility. The results showed that the solubility of urea-zeolite in rumen fluid at the same ratio of 1: 1 and 1: 2, the highest at 4 hours fermentation time of 40.81% and 39.13% and after 4 hours was stable. Urea-zeolite supplementation (ratio 1: 2) on the substrate has no effect (P> 0.01) on the pH of the liquid. N-NH3 fermentation products increased (P <0.01) linearly with increasing levels of urea-zeolite supplementation. The total VFA product and the degradation of dry matter were highly significant (P <0.01) influenced by urea-zeolite supplementation and were optimal at 6% and 4% DM substrate supplementation, respectively. DM and OM digestibility was highly significant (P <0.01) influenced by urea-zeolite supplementation and was optimal at the 6% BK substrate level. It was concluded that the use of urea-zeolite as a supplement in the substrate could increase fermentation products and digestibility in vitro
Publish Type	Book in series
Publish Year	2020
Page Begin	(not set)
Page End	(not set)
Issn	1755-1307
Eissn	
Url	https://www.webofscience.com/wos/woscc/full-record/WOS:000649705500049
Author	Dr Ir MUHAMAD BATA, MS